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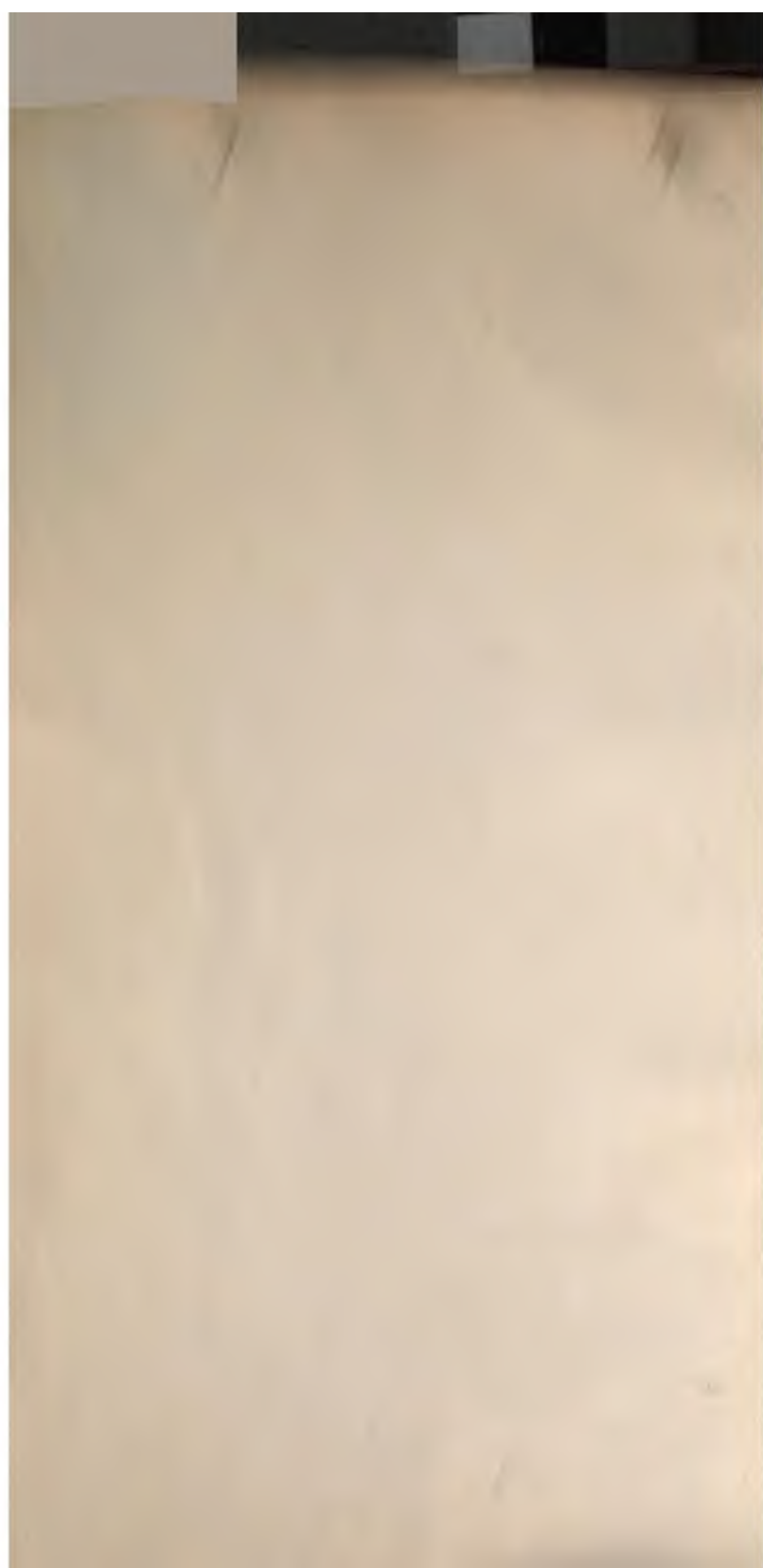


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Pennsylvania









*Penn. Building Code Comm.*

# PROPOSED ACT

17991

GOVERNING THE

Construction, Erection, Enlargement,  
Alteration, Repair, Inspection, Maintenance  
and Safe-guarding of Buildings,

AND THE

Proper Safe-guarding of the Health and Lives of  
Persons Incident to the Use of Such Buildings or  
Structures Within the Commonwealth of  
Pennsylvania

---

REPORT of the President of the Commission appointed by the  
Hon. John K. Tener, Governor, and continued by Hon. M. G.  
Brumbaugh, for the purpose of recommending legislation for the  
safe construction of Buildings and the proper safe-guarding of  
the Health and Lives of persons occupying them

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HARRISBURG, PA.:  
WM. STANLEY RAY, STATE PRINTER  
1916

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**MEMBERS OF THE PENNSYLVANIA STATE  
BUILDING CODE COMMISSION.**

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Commonwealth Building, Philadelphia.**



## LETTER OF TRANSMITTAL

---

To his Excellency, the Honorable Martin G. Brumbaugh, Governor  
of the Commonwealth of Pennsylvania.

Sir: The President of the Pennsylvania State Building Code Commission, appointed by the Hon. John K. Tener, Ex-Governor of the Commonwealth of Pennsylvania, herewith submits to you the tentative report, embodied in the form of a Proposed Act to be submitted to the Legislature. It is recommended that this draft be printed and distributed by the Industrial Board of the Department of Labor and Industry for public constructive criticism and that such criticisms be preserved and presented to a subsequent State Building Code Commission for the purpose of re-drafting this Code before presenting same to the Legislature for final passage. Had the time and funds been available, such would have been the policy pursued by the present Building Code Commission.

The activities of this Commission have extended somewhat over a period of two (2) years, during which time all available sources of information have been diligently sought out and the laws and ordinances of other countries, states, cities and municipalities have been carefully arranged and studied that the "lamp of experience" might help to light the way of this Commission. In particular, all the laws and ordinances of the Commonwealth of Pennsylvania and of its principal cities were carefully analyzed and studied. They are too numerous to mention here in detail. Suffice it to say that each one of these existing laws and ordinances has been carefully studied; and where possible their essential principles have been incorporated in our suggested act.

The seriousness and importance of this task grew with each day's work. The vital and far-reaching effect of such a law as we propose cannot be estimated. The subject of the construction of buildings reaches every avenue of life and affects every industry and every business. Most consequential of all,—it has a momentous effect upon the health and morals of the citizens of our Commonwealth.

Keeping these thoughts in mind it is self-evident that a work of this kind can never be said to be finally and conclusively completed. All progressive action looking to the betterment of mankind and to the betterment of the conditions under which he lives is truly a growth, a process of building up. It is not within the power of one small set of men, to prepare a law that will finally and completely solve every problem in the complicated scheme of social and industrial life. It is necessary, however, that some such organization of men take the initiative, and after a careful study of existing conditions through such sources as are accessible to them, prepare their recommendations in such form that the same may be criticised by the public and then acted upon by the Legislature. Thus the first step is taken; the foundation is laid for a homogeneous development of the whole complicated structure.

This is the work that this Commission has done, and which it now submits to you for your approval.

The opportunities for our work have not been ideal.

As is always the case in a work of this kind the scope and character of the work were not correctly estimated by the Legislature. This Commission has performed its work thoroughly and conscientiously in view of the conditions under which it labored. It has probably gone into the subject more extensively than was contemplated in the minds of the Legislature which authorized this Commission.

The work is not done; it is commenced. The suggested legislation which we herewith submit to you embodies the most essential and practical requirements for the construction and maintenance of buildings. It has been the aim of the Commission to establish only general requirements, such as would be applicable to buildings throughout the entire State, no matter where situated or what the topography of the land might be. We have steadfastly avoided recommending any drastic regulations, which to the ordinary, practical mind might appear of a revolutionary character. All the requirements in this suggested act were drawn up with the object of affecting as little as possible the proprietary interests of building owners and the business interests of those citizens engaged in the manufacture of building materials and accessories.

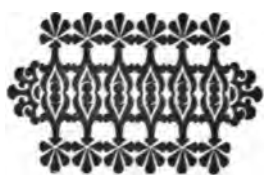
No law of this kind can ever be enacted without disturbing to a greater or less extent existing conditions. Some will undoubtedly

be more affected than others. This is a consequence that can never be avoided but should never constitute a deterrent factor in the way of progressive legislation.

We earnestly commend this proposed act for your favorable consideration. It has the support of many of the organizations and individuals of this State who are interested in this work. We submit it with full appreciation of its incompleteness and yet with a certain satisfaction in having accomplished the first step in what is truly a great work.

FREAS STYER,  
Secretary.

EDGAR A. WEIMER,  
President.





## PREFACE

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The Commission desires to acknowledge gratefully the valued advice and assistance given it by the following, alphabetically arranged:

Dr. Carol Aronovici, General Secretary of the Suburban Planning Association, Philadelphia.

Joseph L. Baldwin, State Fire Marshal, Harrisburg.

D. Knickerbacker Boyd, Architect, Philadelphia.

Edwin Clark, Chief of Bureau of Building Inspection, Philadelphia.

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Abram W. Herbst, Chairman, New York Building Code Commission, New York City.

Manton E. Hibbs, Civil Engineer, Philadelphia.

Mrs. Franklin P. Iams, Pittsburgh.

John Price Jackson, Commissioner of Labor and Industry, Harrisburg.

T. P. Kearns, Chief Deputy, The Industrial Commission of Ohio, Columbus, Ohio.

Wm. Lauder, Secretary Industrial Board, Harrisburg.

James McKirby, Assistant Director Legislative Reference Bureau, Harrisburg.

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Dr. Joseph S. Neff, Department of Health, Philadelphia.

Bernard J. Newman, Secretary of Philadelphia Housing Commission, Philadelphia.

Lew R. Palmer, Chief Inspector, Department of Labor and Industry, Harrisburg.

Wm. L. Plack, Architect, Philadelphia.

Edward Stotz, Architect and Chairman of the Commission for the Revision of the Building Laws of Pittsburgh, Pittsburgh.

Sanford E. Thompson, Consulting Engineer, Boston, Mass.

Lawrence Veiller, Author of Housing Reform, New York.

and all the members of the Theater Committee, the Motion Picture Theatre Committee and the Elevator Committee organized by the Department of Labor and Industry, and also the many others who kindly responded to our request for advice and information along special lines.

The Commission also desires to give due credit to Mr. W. W. Johnston, Attorney-at-Law, employed by the Commission to assist the President in the preparation of this draft of the Code, and to Miss Isabelle Prosser, Chief Stenographer, and to the other members of the staff for their conscientious and painstaking work in our behalf.

The members of this Commission feel under special obligations to Edward Stotz, Chairman of the Pittsburgh Building Commission, for his earnest support of our effort to prepare a Building Law that will be of State-wide effect; and for the voluminous data prepared by him and his Commission as well as his continued valued advice and constructive criticism.

We invite the unprejudiced, constructive criticism of any one who is interested in our work, and ask that such critics always bear in mind the State-wide scope of the act and note that we have provided for local conditions to be governed by local ordinances.

Respectfully submitted,

EDGAR A. WEIMER, President,  
Lebanon.

FREAS STYER, Secretary,  
Norristown.

## TABLE OF CONTENTS

Article	I. Administration, .....	13
Article	II. Definitions, .....	13
Article	III. Heights of Building, .....	26
Article	IV. Party Walls, .....	26
Article	V. Fees and Inspections, .....	27
Article	VI. Classification of Buildings, .....	30
Article	VII. Class I Buildings, .....	31
	In this Class shall be included Buildings in which people congregate for amusement, entertainment, social intercourse or worship.	
	(a) Theatres, .....	31
	(b) Motion Picture Theatres, .....	60
	(c) Assembly Halls, .....	88
	(d) Grandstands, summer theatres, observation towers, exhibition and fair buildings, amusement parks and roof gardens, ....	97
Article	VIII. Class II Buildings, .....	107
	In this Class shall be included buildings used for the purposes of education and culture.	
	(a) Primary, Grammar or High schools, and buildings or portions thereof used for school purposes by pupils or students not averaging over eighteen (18) years of age,	107
	(b) Colleges, academies, seminaries, libraries, museums, art galleries and all school build- ings not included under Class IIa, ....	125
Article	IX. Class III Buildings, .....	138
	In this Class shall be included buildings in which people are lodged or housed.	
	(a) Tenement and apartment houses, .....	138
	(b) Hotels, apartment hotels, and club houses,	159
	(c) Dwellings, .....	176
	(d) Lodging houses and rooming houses, .....	192
Article	X. Class IV Buildings, .....	209
	In this Class shall be included buildings in which people are received, confined or restrained.	
	(a) Hospitals, pest houses, sanitariums and benevolent institutions, .....	209
	(b) Asylums, penal institutions and places of temporary detention, .....	222
Article	XI. Class V Buildings, .....	233
	In this Class shall be included buildings used for manufacturing or storage purposes.	
	(a) Factories, .....	233
	(b) Grain elevators, cold storage houses, ware- houses, breweries, distilleries, slaughter houses, packing houses, .....	252
	(c) Powder mills, oil refineries, gasometers, ..	261
	(d) Power plants, .....	264

Article	XII. Class VI Buildings, .....	265
	In this Class shall be included	
	(a) Office buildings, .....	265
	(b) Stores and mercantile establishments, ....	272
	(c) Garages and stables, .....	282
Article	XIII. Class VII Buildings, .....	286
	In this Class shall be included restaurants, cafes and eating houses.	
Article	XIV. Iron and Steel Construction of Buildings, .....	289
Article	XV. Concrete Construction of Buildings, .....	303
Article	XVI. Hollow Block and Terra Cotta Tile, .....	325
Article	XVII. Walls and Foundations, .....	329
Article	XVIII. Timber, .....	339
Article	XIX. Fire-resistive Construction, .....	342
Article	XX. Mill Construction, .....	343
Article	XXI. Ordinary Construction, .....	343
Article	XXII. Frame Construction, .....	344
Article	XXIII. Stairways, .....	345
Article	XXIV. Fire Escapes, Standpipes and Automatic Sprinklers, ..	346
Article	XXV. Elevators, .....	352
Article	XXVI. Smoke Flues, Chimneys, Chimney Stacks, Fire Places and Hearths, .....	368
Article	XXVII. Heating and Ventilating, .....	393
Article	XXVIII. Sanitation and Plumbing, .....	396
Article	XXIX. Electric Wiring and Apparatus, .....	411
Article	XXX. Gas Generators and Gas Fitting, .....	411
Article	XXXI. Plastering, .....	412
Article	XXXII. Billboards, signboards, signs and fences, sidewalks, cor- nices, bay windows, porches, windows and other pro- jections, .....	413
Article	XXXIII. Safety during Construction, .....	419
Article	XXXIV. Standard Appliances and Methods—To be known as State Standards, .....	422
Article	XXXV. Rat and Fly Proofing, .....	423
Article	XXXVI. Repeal, .....	427



## AN ACT

To establish a State Building Department within the Department of Labor and Industry, in the Commonwealth of Pennsylvania, and Bureaus of Building Inspection in cities, boroughs and townships within the Commonwealth of Pennsylvania; providing for the appointment of officers and employes for such State Building Department and such Bureaus of Building Inspection; defining the authority and powers of such Building Department and such Bureaus of Building Inspection and the duties and powers of its and their officers and employes; prescribing rules, regulations and laws governing the construction, erection, enlargement, alteration, repair, inspection, maintenance and safe-guarding of buildings; providing for penalties for the violation of this act; and repealing certain laws, general, special and local, and all laws, general, special or local, or any parts thereof that may be in conflict with or inconsistent with this act.

### ARTICLE I.

#### Administration.

Sections 1 to 42. (These sections have been left unprinted as they are questions of legislation and of little interest to the public at this time.)

### ARTICLE II.

#### Definitions.

Section 43. (a) The words, terms and expressions used in this act not expressly defined by this act shall be defined as defined in "Kidder's Architects' and Builders' Pocket-Book." Where such words, terms and expressions are not defined in "Kidder's Architects' and Builders' Pocket-Book" they shall be defined as defined in the Century Dictionary.

(b) Words in the singular shall include the plural and words used in the plural shall include the singular.

(c) Certain words, terms and expressions used in this act are for the purpose of this act hereby expressly defined, but such definition shall be construed as applying only to this act, and shall not be held to modify or affect in any way the legal interpretation of such words when used in other acts or ordinances. Wherever such words appear in this act they shall convey the following meanings:

Section 44. Aisle shall mean the space between ends of rows of seats, or between a wall and ends of rows of seats. (See Main Aisle, Cross Aisle, Wall Aisle.)

Section 45. Amusement park shall mean the ground area and the buildings or structures contained therein, used, designed, or intended to be used, for the amusement or entertainment of the public.

Section 45½. Apartment is a room or suite of two (2) or more rooms, occupied, or intended or designed to be occupied, as a domicile for a single family.

Section 46. Apartment hotel shall mean every hotel in which the apartments are rented, or designed or intended to be rented in suites, for terms not less than one (1) month.

Section 47. Apartment house shall be construed to be and be defined as a tenement house.

Section 48. Approved is used in this act as applied to anything material or mode of construction, and shall be construed to mean that the thing, material or mode of construction shall conform to the rules and regulations as prepared and promulgated by the State Building Commissioner or Chief Building Inspector.

Section 49. Assembly hall shall mean any building or portion thereof designed for occupation by one hundred (100) or more people for purposes of entertainment, instruction or amusement, other than theaters or motion picture theaters, and shall include churches, parish halls, lodge halls, dance halls, banquet halls, skating rinks, and armory halls.

Section 50. Asylum shall mean any building used for the detention or confinement of any insane, feeble-minded or mentally deficient person, by virtue of any order or sentence of a court of law.

Section 51. Attic shall mean the space situated wholly or partly in the roof. If such space has a clear height of eight (8) feet over an area of one hundred (100) square feet or more, or is used for any purpose other than storage it shall be deemed a story and treated as such.

Section 52. Auditorium shall mean that portion of any building used for the purposes of Class I which is designed or intended for the seating of the public, or for the standing of the public where standing is permitted by this act.

Section 53. Automatic button control elevator, shall mean an elevator the operation of which is controlled by push buttons in such a manner that all floor stops are automatic.



Section 54. Basement is the space beneath the first floor above grade, which is partly but not more than one-half ( $\frac{1}{2}$ ) below the highest point of grade or the highest surface of the ground immediately adjoining the building if there is no grade, or if such surface is higher than grade.

Section 55. Benevolent institution shall mean any building not an asylum used as a home for the helpless, which shall include the young, the aged or decrepit and the incurable, which is organized and maintained either from private or public sources not for pecuniary profit.

Section 56. Billboard shall mean any structure or part thereof used for the purpose of pasting or tacking paper or other posters and bills for advertising purposes.

Section 57. Building shall mean and include every structure having walls and covered with a roof.

Section 58. Buildings of Class — (Ia, Ib, IIa, etc., as the case may be), hereafter erected shall be interpreted to include buildings hereafter erected for the uses and purposes of the particular class named, and buildings hereafter erected and converted to the uses and purposes of the particular class named.

Section 59. Buildings of Class — (Ia, Ib, IIa, etc., as the case may be), prior erected shall be interpreted to include buildings erected prior to the passage of this act for the uses and purposes of the particular class named, and buildings erected prior to the passage of this act which are converted or altered to the uses and purposes of the particular class named, prior to the passage of this act.

Section 60. Bulkhead shall mean a structure on the roof of a building used only to enclose staircases to roofs, elevator machinery, water tanks, ventilating apparatus and exhaust chambers.

Section 61. Ceiling shall mean the underside of a floor or roof, or the upper covering of any booth or other enclosed or partly enclosed space within a building.

Section 62. Cellar is the space beneath the first floor above grade which is more than one-half ( $\frac{1}{2}$ ) below the highest point of grade or the highest surface of the ground immediately adjoining the building if there is no grade, or if such surface is higher than grade.

Section 63. Cesspool shall mean the box or vault in the ground used to receive drainage from the water-closets and sinks of a building.

Section 64. Chimney shall mean that portion of the smoke flue extending above the roof.

Section 65. Chimney stack shall mean any smoke flue extending more than ten (10) feet in height above or apart from any building.

Section 66. Club house shall mean any building or part of building occupied by a club or association and containing a kitchen and a dining room and sleeping quarters for ten (10) or more persons.

Section 67. Common hall shall mean a hall or corridor not within an apartment.

Section 68. Common wall is a wall used or built to be used for the common separation or support of adjoining buildings.

Section 69. Concrete shall mean an intimate mixture consisting of coarse aggregate or gravel or crushed stone or other approved materials whose voids are filled with a plastic mass composed of Portland cement mortar, which in course of time hardens and becomes solid.

Section 70. Corner lot shall mean a lot not over fifty (50) feet in width fronting on two (2) streets or on a street and a public alley at least twenty (20) feet wide. Where the two (2) street frontages of a corner lot are of unequal lengths the lesser street frontage shall be taken as the width of the lot. Street frontage alone and not alley frontage shall be considered in determining such lesser frontage.

Section 71. Court shall mean an open, unoccupied, unobstructed space other than a yard on the same lot as the building. A court entirely surrounded by a building is an inner court. Lot line court is a court one side of which is bounded by a lot line, and the other sides by a building. A court extending to a street, alley or Yard is an outer court.

Section 72. Cross aisle shall mean any aisle which meets or intersects a main aisle.

Section 73. Dead load shall mean the actual weight of all walls, floors, roofs, partitions and all construction designed or intended as part of the building or structure and not removable.

Section 74. Dumbwaiter shall mean all the machinery, construction, apparatus and equipment directly used in raising and lowering vertically a car, cage, platform, shelf or shelves which are used for freight only, and in which no persons are carried, having a horizontal cross sectional area of not more than nine (9) square feet and capable of carrying a load of not more than five hundred (500) pounds.

Section 75. Dwelling shall mean any building, not a tenement house, rooming house, or lodging house, all or any part of which is



occupied, designed or intended to be occupied as the home or residence of any number of families less than three (3).

Section 76. Elevator shall mean all the machinery, construction, apparatus and equipment directly used in raising and lowering a car, cage or platform vertically in permanent rails or guides, and not a dumbwaiter. Elevator shaft shall mean the shaft in which the elevator car operates. Elevator car shall mean the car, cage or platform which is operated either in an elevator shaft or in an unenclosed area. Elevator machinery shall mean the machinery directly used in the operation of the elevator. Elevator car door shall mean the door in the elevator car used as a means of ingress and egress to and from the elevator car. Passenger elevator is an elevator used for carrying people. Freight elevator is an elevator used for the carrying of freight in which no person other than the regular operator and three (3) designated assistants may be carried at any one time.

Section 77. Exhibition building shall mean any building, used, designed, or intended to be used, principally for the display of merchandise or other articles for commercial purposes or for education, instruction or entertainment.

Section 78. Factory shall mean any building or part thereof equipped for the use of or actually occupied by ten (10) or more employees who are engaged in the producing, fabricating, washing, cleaning, finishing or preparing of any article or part of any article; or engaged in any process incident to the producing, fabricating, washing, cleaning, finishing or preparing of any article; or engaged in the altering, repairing, ornamenting or adapting of any article for sale.

Section 79. Fair building shall mean any building used, designed, or intended to be used, by itself or in connection with other buildings for the display or exhibition of merchandise or other articles for commercial purposes or for education, instruction or entertainment.

Section 80. Fence shall mean any barrier or wall used to separate, divide or enclose lands and other real estate.

Section 81. Fire escape shall mean a stairway designed or intended to be used as a means of emergency ingress and egress in addition to the ordinary means of ingress or egress, and constructed as required in this act. Tower fire escape is a fire escape completely enclosed by fire walls, and to which entrance is obtained from the outside of the building through openings covered by approved self closing, hinged fire doors.

Section 82. Fire-resistive construction shall mean that type of construction in which all parts of a building that carry loads or resist stresses, all exterior and interior walls, all interior partitions, and all stairways and the enclosing walls of stairways and elevator shafts, all doors, window frames and sash, and all trimming of stairways and elevator shafts are of approved fire-resistive materials, and where the exposed metal members of construction are covered with approved fire-resistive materials. The floor covering or flooring may be of wood, provided that it is laid on a continuous base of brick or concrete or other approved fire-resistive materials.

Section 83. Fire-resistive materials shall mean those approved materials hereinafter described, having desirable fire-resistive qualities.

Section 84. Fire-resistive partition shall mean a continuous partition of approved fire-resistive materials extending from the ceiling below to the ceiling above separating the area of the floor into two (2) or more parts. Openings will be permitted provided they are equipped with approved self-closing fire doors.

Section 85. Fire stop shall mean the filling composed of approved fire-resistive materials built in between the beams, joists, studding or girders of a floor, wall, ceiling or partition.

Section 86. Fire wall shall mean a wall, continuous vertically or continuous horizontally, built of approved fire-resistive materials separating two (2) buildings or parts of the same building. Vertical fire walls shall extend from the bottom of the lowest cellar or the basement, if there is no cellar, to a height of at least three (3) feet above the roof throughout their entire length. Where permitted by this act, fire walls may have openings; provided that, they are equipped with approved self-closing fire doors; except that, automatic self-closing fire doors may be used in conjunction with approved self-closing fire doors where hereinafter permitted.

Section 87. Flat building is a term not used in this act; reference is made to tenement house and dwelling.

Section 88. First class masonry shall mean regular coursed masonry with level beds and joints all brought into bearing and with mortar joints not exceeding one-half ( $\frac{1}{2}$ ) inch in thickness.

Section 89. Floor shall mean that part of the construction of a building separating a cellar, basement, story or attic from the ground, cellar, basement or story next below. It shall also mean the bottom of any booth or any enclosed or partly enclosed space within a building.

Section 90. Floor covering or flooring shall mean the upper side of a floor.

Section 91. Flue shall mean a continuous enclosed passage intended for the purpose of carrying away smoke and gases or for ventilation, enclosed, and constructed of approved fire-resistive materials. Smoke flue shall mean any flue designed for the carrying away of smoke or gases or both.

Section 92. Flue wall or flue walls shall mean the wall or walls used to form the flue.

Section 93. Foyer wall shall mean that wall of the auditorium which is opposite the proscenium wall.

Section 94. Frame construction shall mean that form of construction in which the exterior walls or portion thereof are of wood.

Section 95. Garage shall mean any building or portion thereof in which one (1) or more motor vehicles containing volatile inflammable oil in its fuel tank is stored, housed or kept; also that portion of such building that is on, above or below the portion so used, and not separated therefrom by fire walls.

Section 96. Grade shall mean the levels of the surface of the ground established by law and on record.

Section 97. Grandstand shall mean any structure, designed or used for the witnessing of out-of-door performances, such as races, ball games, parades or athletic contests.

Section 98. Height of building shall mean the vertical distance of the highest point of the roof from mean grade.

Section 99. Height of story shall mean the vertical distance from the top of the finished floor to the under side of the finished ceiling of the same story.

Section 100. Hereafter shall mean after the date of the passage of this act.

Section 101. Hospital shall mean any building designed and maintained for the treatment of the sick or wounded during their period of sickness and not used, designed or intended to be used, as a home or permanent abode for persons afflicted with prolonged or incurable illnesses.

Section 102. House sewer shall mean that part of the main drain or sewer extending from a point five (5) feet outside of the outer wall of a building, vault or area to its connection with public sewer, private sewer or cesspool.



Section 103. House drain shall mean that part of the main horizontal drain and its branches inside the walls of the building, vault or area, and extending to and connecting with the house sewer.

Section 104. Hotel shall mean every building or part thereof, designed, intended or used for supplying food and lodging to the public and having a general public dining room or cafe or both.

Section 105. Inner court shall mean a court entirely surrounded by a building.

Section 106. Interior lot shall mean a lot other than a corner lot.

Section 107. Landing shall mean a floor, balcony or platform used to receive and discharge passengers or freight from the elevator car. When used in connection with stairways it shall mean the level platform between flights or at the end of flights.

Section 108. Landing door shall mean the door in the wall of the elevator shaft at any landing used as a means of ingress and egress to the elevator car.

Section 109. Landing gate shall mean the gate at any landing used as a means of ingress and egress to the elevator car.

Section 110. Lime mortar shall mean an intimate mixture consisting of sand or other approved materials, thoroughly mixed with a plastic mass composed of carbonate of lime which in course of time hardens and becomes solid.

Section 111. Live load shall mean all imposed, fixed or transient loads, other than dead loads due to the occupancy of the building and its exposure to wind pressure and all construction not entering into the strength or stability of the building or structure.

Section 112. Living room shall mean any room not a water-closet, bath room, or other room used solely for closet purposes, and which is used in whole or in part for household purposes. When applied to rooms in buildings of any class other than Class IIIa and Class IIIc it shall mean all such rooms that are used for the same or analogous purposes.

Section 113. Local Board of Health or State Department of Health. The term Local Board of Health in this expression shall mean and include the individual or body charged by law with the duty of enforcing laws or regulations in matters pertaining to health and sanitation within any municipality of the Commonwealth; and the term State Department of Health in this expression shall mean the department of health created and established by act of the Legislature of the Commonwealth of Pennsylvania. Any powers or duties

given or imposed by this act upon the Local Board of Health or State Department of Health shall devolve first upon the Local Board of Health where there is such, and if not, then upon the State Department of Health. Nothing herein, however, shall be construed to limit or restrict any authority that the State Department of Health may have by law over the Local Board of Health, or over matters pertaining to health and sanitation within the Commonwealth, not specifically provided for in this act; but shall be construed as placing additional responsibilities and duties upon the Local Board of Health.

Section 114. Local or State Fire Marshal. Where any powers or duties are given or imposed by this act upon the Local or State Fire Marshal they shall devolve in the first instance upon the fire marshal of any city, borough or township, where there is such an officer acting under law. If there is not such an officer then such duties shall devolve upon the State Fire Marshal. Nothing herein, however, shall be construed to limit or restrict any authority that the State Fire Marshal may have by law over the Local Fire Marshal.

Section 115. Lodging house shall mean any building or portion thereof, not a tenement house, rooming house, dwelling or hotel, which is occupied or designed or intended to be occupied by individuals for a single night or for any period less than a week.

Section 116. Lot shall mean the entire area devoted to one (1) building, including all yards and courts.

Section 117. Lot line court is a court, one (1) side of which is bounded by a lot line and the other side by a building.

Section 118. Main aisle shall mean any aisle leading in a straight line from the foyer wall to or toward the proscenium wall.

Section 119. Masonry shall mean such structural part of buildings and structures as are constructed of stones or bricks laid in lime mortar or cement mortar. Ordinary rubble shall mean masonry composed of unsquared stones laid without attempting any regularity of courses or bond. Coursed rubble shall mean masonry having approximately level joints; stones roughly shaped so as to fit approximately and joints which are leveled off every three (3) feet in height and well bonded.

Section 120. Mercantile establishment (see store).

Section 121. Mill (see factory).

Section 122. Mill construction is that form of construction in which the exterior walls are of approved fire-resistive materials and

the interior structural parts are of wood of minimum sizes and dimensions, subject to the detail requirements hereinafter set forth.

Section 123. Monumental Stairway shall mean a stairway at least ten (10) feet wide, extending either from the ground to the first or second floors, or from the first floor to the second floor of the building, and so constructed for decorative effect.

Section 124. Motion picture theater shall mean every building, hall or room designed or used for the exhibition of motion pictures and not having a stage and not using movable scenery.

Section 125. Observation tower shall mean the building, or the structure erected on the roof of a building, used, designed, or intended to be used, by the public for observation purposes.

Section 126. Office building shall mean every building which is divided into rooms above the first story, and is intended and used for business and office purposes, and no part of which is used for living purposes, excepting for the janitor and his family.

Section 127. Ordinary construction shall mean that form of construction other than fire-resistive construction or mill construction in which the enclosing walls are built of approved fire-resistive materials.

Section 128. Outer court is a court extending to a street, alley or yard.

Section 129. Party wall shall mean a wall constructed under and by virtue of laws heretofore enacted, used or built to be used for the common separation or support of adjoining buildings of separate owners. This term will not be used in this act as applying to buildings hereafter erected. (See common wall.)

Section 130. Penal institutions shall mean buildings used for the restraint and confinement of persons under sentence of a court of law, and shall include jails, houses of correction, reformatory institutions and penitentiaries.

Section 131. Pent house shall be construed to be and be defined as a bulkhead.

Section 132. Pest house shall mean a building used for the detention, restraint and treatment of persons afflicted with contagious or infectious disease.

Section 133. Places of temporary detention shall mean buildings used for the purpose of detaining or restraining persons charged with the violation of law, or persons who by reason of physical or



mental infirmity may become a menace to the community, and shall include police stations and detention hospitals.

Section 134. Portland cement shall mean the finely pulverized product resulting from calcination to incipient fusion of an intimate mixture of properly proportioned argillaceous and calcareous materials, and to which no addition greater than three (3) per cent. has been made subsequent to calcination.

Section 135. Portland cement mortar shall mean an intimate mixture of fine aggregates with Portland cement, the cement filling the voids.

Section 136. Prior shall mean before the date of the passage of this act.

Section 137. Private sewer shall mean main sewers that are not constructed by and under supervision of municipal authority.

Section 138. Proscenium wall shall mean the wall separating the stage from the auditorium.

Section 139. Reinforced concrete shall mean an approved Portland cement mortar or concrete, in which is embedded a skeleton of steel in such a manner that the two (2) elements acting together statically resist all external forces.

Section 140. Reinforced hollow tile shall mean the combination of hollow Portland cement or hard burned clay blocks or units used as filling between reinforced concrete beams.

Section 141. Roof is that part of the construction which forms the top or covering of any building.

Section 142. Roof garden shall mean any place of entertainment, amusement or recreation designed for the accommodation of the public, and located on the roof or topmost story of any building.

Section 143. Rooming house shall mean any building or part thereof in which five (5) or more persons, either as single individuals or as families are harbored or received, housed or lodged for hire or otherwise for a single day or night or a longer period, not a tenement house, lodging house, dwelling or hotel; provided that, any building or part thereof in which fifty (50) per cent. or more of the rooms used for sleeping are used solely by the members of the immediate family occupying the house, and by the domestic servants of such families, shall not be considered a rooming house within the meaning of this act.

Section 144. Sanitarium shall mean any building used for the care and treatment of the sick where the illness is of a prolonged or incurable nature.



Section 145. Scenery shall mean all movable or immovable curtains and frames used or for use in amateur or professional theatrical, spectacular, vaudeville, dramatic, operatic or pantomime performances.

Section 146. Shaft is the vertical space either enclosed or partly enclosed, used for ventilation, dumbwaiters, elevators, and for wiring or piping purposes. When used for ventilation it must be unobstructed; when used for other purposes such obstructions will be permitted as are necessary for the purpose for which it is used.

Section 147. Sign shall mean any structure or part thereof in which the lettering or pictorial matter is permanently attached to the skeleton frame thereof.

Section 148. Signboard shall mean any structure or part thereof on which lettered or pictorial signs are painted.

Section 149. Slow burning construction shall be construed to be and be defined as mill construction.

Section 150. Smoke flue shall mean any flue designed for the carrying away of smoke or gases or products of combustion.

Section 151. Smoke pipe shall mean the thin metal pipe used to carry off the gases or products of combustion from the heater to the smoke flue.

Section 152. Soil-pipe shall mean any vertical line of pipe extending through the roof, receiving the discharge of one (1) or more water closets, with or without other fixtures.

Section 153. Stage properties shall mean the furniture, carpets, draperies, movable platform and movable furnishings other than scenery used in the embellishment and arrangement of stage settings or used in the action of amateur or professional theatrical, spectacular, vaudeville, dramatic, operatic or pantomime performances.

Section 154. State Building Commissioner or Chief Building Inspector. Where any powers or duties are given or imposed by this act upon the State Building Commissioner or Chief Building Inspector, they shall devolve in the first instance upon the Chief Building Inspector of any city, borough or township, where there is such an officer. If there is not such an officer then such duties shall devolve upon the State Building Commissioner. Nothing herein, however, shall be construed to limit or restrict any authority over any Chief Building Inspector that this act may elsewhere give to the State Building Commissioner.

Section 155. Store shall mean any building in which goods, wares and merchandise are stored, kept or displayed for sale.

Section 156. Story shall mean that portion of a building between the top of the finished floor and the under side of the finished ceiling next above.

Section 157. Structure shall mean and include everything constructed or erected, the use of which demands a permanent location on the soil; or attached to something having a permanent location on the soil.

Section 158. Summer theater shall mean a building erected and designed to be used as a theater only during the summer, and not within thirty (30) feet of any other building or structure.

Section 159. Tenement house shall mean any building or part of building, designed to be occupied or leased for occupation or actually occupied as a home or residence for three (3) or more families living independently of each other in separate apartments and doing their cooking upon the premises, and having a common right in the stairways, halls, courts or yards.

Section 160. Theater shall mean any building or part of building in which persons congregate to witness amateur or professional theatrical, spectacular, vaudeville, dramatic, operatic or pantomime performances in which scenery, apparatus or stage properties are employed.

Section 161. Tower fire escape shall mean a fire escape completely enclosed by fire walls and to which entrance is obtained from the outside of the building through openings covered by approved self-closing hinged fire doors.

Section 162. Veneered construction shall mean that form of construction in which the walls are formed of brick, sheathed with wood. This type of construction shall be construed to be the same as frame construction.

Section 163. Vent-pipe shall mean any special pipe provided to ventilate the system of piping, and to prevent trap siphonage and back pressure.

Section 164. Vent shaft is a shaft used solely for light or ventilation.

Section 165. Wall aisle shall mean a main aisle adjoining a wall.

Section 166. Waste-pipe shall mean any pipe extending through roof, receiving the discharge from any fixtures except water-closets.



Section 167. Workshop (See factories).

Section 168. Yard is an open, unoccupied space, separating every part of every building on the same lot from the rear line of the lot.

### ARTICLE III.

#### Heights of Buildings.

Section 169. Except as otherwise in this act provided, the heights of buildings shall be subject to the following limitations:

Section 170. Buildings of frame construction may be built not more than three (3) stories nor more than forty-two (42) feet in height.

Section 171. Buildings of ordinary construction may be built not more than four (4) stories nor more than fifty-four (54) feet in height.

Section 172. Buildings of mill construction may be built not more than four (4) stories nor more than fifty-four (54) feet in height.

Section 173. Buildings of fire-resistive construction may be built not to exceed one hundred and twenty-five (125) feet in height.

Section 174. The height of any building hereafter erected shall not exceed one hundred and twenty-five (125) feet.

### ARTICLE IV.

#### Party Walls.

Section 175. All acts or parts of acts heretofore enacted relating to party walls whether general, special or local, and not heretofore repealed, are hereby expressly repealed.

Section 176. The alteration and repair of existing party walls shall be governed by the provisions of this act relating to common walls.

Section 177. (a) It is hereby made unlawful for any city, borough or township to enact any law or ordinance affecting property rights in and to party walls or common walls, or relating in any way to a party wall or common wall, except as to its structural requirements.

(b) This section shall not be construed to give cities, boroughs or townships any right or power other than is expressly given under the provisions of this act.

## ARTICLE V.

### Fees and Inspection.

Section 178. It shall be the duty of the State Building Commissioner or Chief Building Inspector to make all inspections required under this article. The fees for such inspections and for the issuance of permits provided for in this act, shall be as follows:

(a) For permit for the erection and construction of one (1) story shelter or storage sheds, barns, carriage houses, garages or arbors, not less than fifty (50) cents for each five hundred (500) square feet of ground area or fractional part thereof.

(b) For permit for the erection and construction of all other buildings than set forth in paragraph (a) not less than ten (10) cents for every one thousand (1,000) cubic feet or fractional part thereof of contents, said cubic feet being measured to include every part of the building from the basement floor to the highest point of the roof, and to include all bay windows and other projections. In any case a minimum fee of two (\$2.00) dollars will be charged.

(c) For permit for altering and repairing any building or other structure at the rate of not less than two (\$2.00) dollars for each five thousand (\$5,000) dollars or fractional part thereof of the estimated cost of such alterations and repairs.

(d) For permit for covering or recoating the roof of any building not less than one (\$1.00) dollar.

(e) For permit for raising any building other than a building of frame construction not less than two (\$2.00) dollars for every twenty-five (25) feet or fractional part thereof of greatest frontage.

(f) For permit for the erection and construction of any fire escape not less than two (\$2.00) dollars, except where such fire escape is erected and constructed in connection with the erection and construction of a building for which a permit has been issued.

(g) For permit for the installation or alteration of any elevator not less than two (\$2.00) dollars, except where such elevator is installed in connection with the erection and construction of a building for which a permit has been issued.

(h) For semi-annual inspection of elevators, not less than two (\$2.00) dollars.

(i) For annual inspection of all buildings over two (2) stories in height, except dwellings occupied or designed or intended to be occupied by only one (1) family, not less than ten (10) cents for each one thousand (1,000) cubic feet of contents or fractional part thereof of such building; provided that, no fee for such annual inspection shall be charged against religious, charitable or educational institutions.



(j) For permit for the erection or construction of billboards or signboards not less than one (\$1.00) dollar for every twenty-five (25) square feet of area or fractional part thereof.

(k) For annual inspection of billboards or signboards not less than twenty-five (25) cents for each twenty-five (25) square feet of area or fractional part thereof.

(l) For permit for the erection and construction of illuminated and other roof signs not less than one (\$1.00) dollar for every twenty-five (25) square feet of area or fractional part thereof.

(m) For annual inspection of illuminated and other roof signs not less than one (\$1.00) dollar for every twenty-five (25) square feet of area or fractional part thereof.

(n) For permit for tearing down or wrecking any building not less than two (\$2.00) dollars for every twenty-five (25) feet of greatest frontage or fractional part thereof.

(o) For semi-annual inspection of proscenium curtains in theatres not less than five (\$5.00) dollars.

(p) For permit for the erection and construction of a tank on roof in excess of five hundred (500) gallons capacity not less than two (\$2.00) dollars, except where such tank is erected and constructed in connection with the erection and construction of a building for which a permit has been issued.

(q) For permit for the erection and construction of a chimney stack not less than two (\$2.00) dollars, except where such chimney stack is erected and constructed in connection with the erection and construction of a building for which a permit has been issued.

(r) For permit for the erection and construction of a canopy attached to a building or structure not less than two (\$2.00) dollars, except where such canopy is erected and constructed in connection with the erection and construction of a building for which a permit has been issued.

(s) For permit for the erection and construction of an observation tower not less than two (\$2.00) dollars, except where such observation tower is erected and constructed in connection with the erection and construction of a building for which a permit has been issued.

(t) For semi-annual inspection of observation towers not less than two (\$2.00) dollars.

(u) For permit for the erection and construction of any roller coaster, scenic railway, water chute or other mechanical riding, sailing, sliding or swinging amusement device not less than five (\$5.00) dollars for every ten thousand (\$10,000.00) dollars or fractional part thereof of the estimated cost thereof.

(v) For each inspection of roller coaster, scenic railway, water chute or other mechanical, sailing, sliding, or swinging amusement

device not less than five (\$5.00) dollars for every ten thousand (\$10,000.00) dollars or fractional part thereof of the estimated cost thereof.

Section 179. Where the fees provided for in this act are based on the estimated cost of erection, construction, enlargement, alteration or repair, the State Building Commissioner or Chief Building Inspector may require the owner or his duly authorized agent to make affidavit as to the exact cost of erection, construction, enlargement, alteration or repair.

Section 180. It is hereby made the duty of the State Building Commissioner or Chief Building Inspector to make at least one (1) inspection of the proscenium curtain in all theatres, and to issue height, except dwellings occupied or designed or intended to be occupied by only one (1) family.

Section 181. It is hereby made the duty of the State Building Commissioner or Chief Building Inspector to make an inspection of all fire escapes and fire escape equipment on buildings erected prior to the passage of this act and on buildings hereafter erected.

Section 182. It is hereby made the duty of the State Building Commissioner or Chief Building Inspector to make a semi-annual inspection of all elevators and elevator equipment.

Section 183. It is hereby made the duty of the State Building Commissioner or Chief Inspector to make an annual inspection of all billboards, signboards and roof and illuminated signs.

Section 184. It is hereby made the duty of the State Building Commissioner or Chief Building Inspector to make a semi-annual inspection of the proscenium curtain in all theatres, and to issue a certificate of inspection which shall be posted or attached to the curtain.

Section 185. It is hereby made the duty of the State Building Commissioner or Chief Building Inspector to make a semi-annual inspection of all observation towers.

Section 186. It is hereby made the duty of the State Building Commissioner or Chief Building Inspector to make an inspection of all roller coaster, scenic railway, water chute or other mechanical riding, sailing, sliding or swinging amusement devices once each year before they are put in operation for public use; and, if any such device or devices are operated for public use for more than six (6) consecutive months, it shall be the duty of the State



Building Commissioner or Chief Building Inspector to inspect such device or devices at least once in every six (6) months.

Section 187. (a) Wherever upon inspection being duly made as provided in this act any building or structure is found to be in conformity with the provisions of this act, it shall be the duty of the State Building Commissioner or Chief Building Inspector upon the payment of the inspection fee required under this act, to issue a certificate containing the date of the inspection and a statement to the effect that such building or structure conforms in all respects with the provisions of this act.

(b) Upon the issuance of such certificate it shall become the joint and several duty of the owner, agent, lessee or occupant of any building so inspected to frame the said certificate and place it in a conspicuous place near the main entrance of such building. (When building or structure does not conform, see article 1, section 27, not published in this draft).

## ARTICLE VI.

### Classification of Buildings.

#### Class 1.

Section 188. In this class shall be included buildings in which people congregate for amusement, entertainment, social intercourse or worship.

- (a) Theatres.
- (b) Motion picture theatres.
- (c) Assembly halls.
- (d) Grandstands, summer theatres, observation towers, exhibition and fair building, amusement parks and roof gardens.

#### Class II.

Section 189. In this class shall be included buildings used for the purposes of education and culture.

(a) Primary, grammar or high schools, and buildings or portions thereof used for school purposes by pupils or students not averaging over eighteen (18) years of age.

(b) Colleges, academies, seminaries, libraries, museums, art galleries and all school buildings not included under class IIa.

#### Class III.

Section 190. In this class shall be included buildings in which people are lodged or housed.

- (a) Tenement and apartment houses.

- (b) Hotels, apartment hotels, and club houses.
- (c) Dwellings.
- (d) Lodging houses and rooming houses.

#### Class IV.

Section 191. In this class shall be included buildings in which people are received, confined or restrained.

- (a) Hospitals, pest houses, sanitariums and benevolent institutions.
- (b) Asylums, penal institutions and places of temporary detention.

#### Class V.

Section 192. In this class shall be included buildings used for manufacturing or storage purposes.

- (a) Factories.
- (b) Grain elevators, cold storage houses, warehouses, breweries, distilleries, slaughter houses, packing houses.
- (c) Powder mills, oil refineries, gasometers.
- (d) Power plants.

#### Class VI.

Section 193. In this class shall be included.

- (a) Office buildings.
- (b) Stores and mercantile establishments.
- (c) Garages and stables.

#### Class VII.

Section 194. In this class shall be included restaurants, cafes and eating houses.

### ARTICLE VII.

Special Requirements for Buildings of Class Ia Hereafter Erected.—  
Theatres.

Section 195. In class I, shall be included buildings in which people congregate for amusement, entertainment, social intercourse or worship.

- (a) Theatres.
- (b) Motion picture theaters.
- (c) Assembly halls.
- (d) Grandstands, summer theaters, observation towers, exhibition and fair buildings, amusement parks and roof gardens.



Section 196. (a) The following special requirements for buildings of class Ia hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 197. Buildings of class Ia hereafter erected shall be so designed and constructed that the floors shall safely sustain, in addition to the weight of the floor construction, partitions, permanent fixtures and mechanisms, a live load of not less than one hundred (100) pounds on every square foot of surface; and the stairways and fire escapes a live load of not less than one hundred and fifty (150) pounds on every square foot of treads and landings.

Section 198. (a) All means of egress from buildings of class Ia hereafter erected shall be by doors which shall easily open outward by hand pressure.

(b) Two (2) front doors only, which are not used as emergency exits, may be locked except during the time the building is occupied by the public. All other doors including all exit doors and the principal stage door shall not be provided with any form of lock or locking mechanism other than a removable bar at least six (6) inches wide and one and one-quarter ( $1\frac{1}{4}$ ) inches thick. This bar is to be supported on the door and door frame by "L" shaped castings or forgings in such a manner that, to unlock the door, the bar must be lifted upwards to disengage it from the supports. No other form of supports will be permitted.

(c) About the middle of each bar there shall be painted on each side the words "closed" "unlawful." These words "closed" "unlawful" shall be visible when the door is barred no matter which side of the bar is placed outward. The words "open" "push" shall be painted on the doors in such a manner as to be covered by the bar when the door is barred, and to be exposed to the view of the audience when the door is unbarred. The lettering shall be at least five (5) inches in height.

(d) Such doors may be provided with approved panic locks, springs or light devices, not locks, to hold the doors in a closed position, and shall at all times permit the door to yield to the slightest hand pressure. Such devices shall be of approved design. Substitutes, equivalents or modifications of this method of locking the doors will not be permitted.

(e) All exit doors shall be unlocked and unbarred during the entire time that the building is occupied by the public.

Section 199. (a) In buildings of class Ia hereafter erected no wall projections, radiator or other obstruction of any kind shall be placed in any aisle, corridor, passageway or exit. No person except

the necessary attendants shall be allowed to stand in or occupy any aisle, corridor, passageway or exit while such building is open to the public; but a space may be reserved back of the last row of seats on the main floor in which not more than ten (10) per cent. of the total seating capacity of the main floor will be permitted to stand; provided that, there shall be at least three (3) feet of floor area for each person standing.

(b) The unoccupied space on the main floor within the auditorium, exclusive of aisles, and the space reserved for standing room shall be sufficient to contain the whole number of persons accommodated or designed or intended to be accommodated therein in the ratio of one (1) square foot of floor area for each person.

(c) The space between the back row of seats and the foyer wall shall be free and unobstructed, and shall be at least five (5) feet in depth, and shall extend across the full width of the auditorium.

(d) There shall be placards posted in at least two (2) conspicuous places in such buildings stating the exact number of seats permitted and the exact number of persons permitted to stand. Such placards shall be signed by the State Building Commissioner or Chief Building Inspector.

Section 200. (a) Buildings of class Ia hereafter erected shall be ventilated by an approved mechanical system which will supply not less than one thousand five hundred (1,500) cubic feet of fresh air per hour to each person for whom accommodation is provided.

(b) Where the seating capacity is three hundred (300) or less, and where the seating capacity is greater than three hundred (300) during seasons when artificial heat is not needed, ventilation may be effected by windows; but the aggregate area of the window when open, measured from the top to a line seven (7) feet above the floor, shall be not less than one-quarter ( $\frac{1}{4}$ ) of a square foot for each person for whom seating accommodation is provided.

(c) Artificial ventilation may be effected by fans mechanically operated, or by air intakes and outlets of approved capacity.

(d) Provision shall be made for the removal of an equal quantity of vitiated air with the introduction of fresh air. The vitiated air shall be drawn into ducts or flues and discharged above the roof of the building.

(e) The number, size and location of the air inlets and discharging ducts shall be such as to distribute the incoming air and remove the vitiated air evenly without exposing any person to direct draft.

(f) The fresh air supply shall be taken from outside the building; and no vitiated air, or air from basements, cellars, or other rooms shall be used for ventilating purposes, and such air shall be filtered



when so ordered by the local Board of Health or State Department of Health.

(g) Such buildings shall be thoroughly ventilated immediately before and immediately after each occupation, and the ventilating system shall be kept in constant operation during occupation.

(h) Blowers used to circulate air through ventilating pipes, ducts or flues, shall be electrically operated, and shall be provided with fusible links to stop the blowers automatically in case of fire. Such fusible links shall be connected with an automatic cut-out at the motor, and shall be located throughout the building at such places as may be approved by the local or State Fire Marshal. At least one (1) of such fusible links shall be located in each pipe, duct or flue.

(i) Dampers shall be provided at the intake of all ventilating pipes, ducts or flues, and shall be held open by a combustible cord.

Section 201. Buildings of class Ia hereafter erected shall be of fire-resistive construction.

Section 202. (a) If buildings of class Ia hereafter erected are built so as to form part of any other building, then the entire building shall be of fire-resistive construction.

(b) Wherever any such building is built so that any of its walls or any part of its walls are common walls, then such common walls shall be fire walls.

Section 203. (a) Where only a part of any building hereafter erected is used for the purpose of this class, the rest of such building may be used for other purposes; provided that, no business which, in the opinion of the State Building Commissioner or Chief Building Inspector, is of a hazardous nature shall be permitted; and provided further that, there shall be separate exits to the street and all parts of the building used for the purposes of this class shall be separated from the rest of the building by fire walls of approved thickness.

(b) If any structure is built over the ceiling or roof of any such building, it shall be of fire-resistive construction.

Section 204. (a) Buildings of class Ia hereafter erected shall be located so that they adjoin at least two (2) thoroughfares, one of which shall be a public street and the other may be a public or private alley, not less than ten (10) feet in width, with an unobstructed opening to a public thoroughfare.

(b) Such buildings will not be required to have the front or that side having the principal entrance as wide as the widest part of the auditorium; provided that, a free, unobstructed space shall be preserved as the principal entrance corridor between the foyer wall and the street. Such space shall be centrally located between the sides

of the building, and of a width of not less than twenty-five (25) per cent more than the aggregate space required herein for exit openings at the front; and provided further that, the depth of that part of the building in front of the foyer wall which is used for other purposes, shall be not more than twenty-five (25) feet from the street front.

(c) In such buildings where the center line of the principal entrance extended shall intersect the central axis of the auditorium at an angle other than one hundred and eighty (180) degrees, the side having such principal entrance shall have an unobstructed street frontage throughout the entire length or width of the auditorium, as the case may be, and the principal entrance corridor shall in no case be less than one-half ( $\frac{1}{2}$ ) the width of the auditorium. In all such cases the center line of the principal entrance extended shall intersect the central exit of the auditorium back of the last row of seats, and there shall be an unobstructed passage from all exit doorways in the foyer wall to the main entrance.

Section 205. (a) Buildings of class Ia hereafter erected shall have a court on each side which shall extend from the line of the proscenium wall to the street; except that, where such buildings abut on a street in the front and a street or public alley in the rear such courts may extend from the line of the foyer wall to the rear street or public alley. Wherever any such building is located on a corner lot or at the intersection of two (2) streets there need be but one (1) such court on the side opposite one (1) of such streets.

(b) In such buildings of this class such courts shall be at least eight (8) feet in width; shall be unobstructed and open to the sky throughout their entire length; and the enclosing walls throughout their entire length shall be unpierced walls without any openings other than required exit openings, except vents or other openings controlled by automatic dampers used in the ventilating system and less than ten (10) feet from the level of the courts.

(c) Where such buildings of this class accommodate or are designed or intended to accommodate not more than twelve hundred (1,200) persons such courts shall be at least eight (8) feet in width, and shall increase two (2) inches in width for each one hundred (100) additional persons accommodated or designed or intended to be accommodated in such building; provided that, courts need not be more than ten (10) feet in width.

(d) In such courts differences of level shall be overcome by inclines of the full width of the courts having a rise of not more than one (1) foot in ten (10) feet; except that, wherever necessary stairs will be permitted at the end of the court. The pitch of such stairs shall be not less than a six (6) inch rise by not more than a twelve (12) inch tread.



Section 206. (a) In buildings of class Ia hereafter erected there shall be at least two (2) emergency exits in each side wall of the auditorium other than the proscenium wall or foyer wall, one (1) situated midway between the proscenium wall and the foyer wall, and one (1) at the lowest floor levels of the main floor, balcony and gallery respectively. Such exit openings shall be not less than five (5) feet in width.

(b) In such buildings the sills of such exit openings shall be level and where practicable shall be flush on the inside with the floor covering or flooring. There shall be no steps or risers in the corridor, or passageway leading to such exit openings for a distance of ten (10) feet from such exit openings. In any event not more than one (1) step with a rise of not more than nine (9) inches will be permitted on either side of such sills.

(c) In such buildings such exit openings shall be equipped with approved theater fire doors which shall open outward as herein provided. Such doors shall be so hung as to swing one hundred and eighty (180) degrees flat into a four (4) inch recess in the outer surface of the wall at both sides of the exit openings.

Section 207. (a) In buildings of class Ia hereafter erected, at required exit openings in the side walls of the auditorium at each balcony and gallery there shall be constructed a platform and outside unenclosed fire escape leading to the surface level of the court or to the street or alley, as the case may be. There need be but one (1) such fire escape from each floor on each side. Such platforms and fire escapes shall be constructed of approved fire-resistive materials. The floor members shall extend through the wall and the braces shall be anchored by a heel or toe into the wall.

(b) The width of such platform and fire escape shall be not less than four (4) feet and at no time greater than one-half ( $\frac{1}{2}$ ) the width of the court required for buildings of this class.

(c) Such platform and fire escape shall be equipped with hand rails at least three (3) feet nine (9) inches high, which shall be supported on standards of a design to withstand a pressure of one thousand (1,000) pounds applied to the hand rail at the weakest point. The open space between the standards shall be protected with metal lattice work, or expanded metal, or metal of other approved design.

(d) Treads and landings of such platform and fire escape shall be constructed of gridwork having openings not greater than three-quarters ( $\frac{3}{4}$ ) of an inch between grids, or of any approved non-slip-ping material.

(e) The bottom flight of such fire escape shall lead in the direction of the street or alley as the case may be. Such flight shall at all times rest on the ground.

(f) Each fire escape leading from any floor shall be entirely independent from any other fire escape and there shall be no means of exit onto such fire escape other than the exit openings at its respective floor.

(g) All such fire escapes shall be covered with a sheet metal hood or awning throughout their entire length.

Section 208. Each tier of dressing rooms behind the proscenium wall in buildings of class Ia hereafter erected shall have at least one (1) emergency exit with platform and outside unenclosed fire escape as herein provided for the auditorium; except that, all such exits on each side may lead to one (1) fire escape.

Section 209. In buildings of class Ia hereafter erected there shall be no openings of any kind allowed in the outer walls of the auditorium below the upper row of exits other than the exit openings herein required, except vents or other openings controlled by automatic dampers used in the ventilating system, not less than ten (10) feet from the level of the courts.

Section 210. In buildings of class Ia hereafter erected the floor level of the highest row of seats on the main floor shall be not more than three (3) feet above the sidewalk level. The floor level of the lowest row of seats on the main floor shall be more than eight (8) feet below the sidewalk level. All measurements shall be taken from the same sidewalk level.

Section 211. (a) In buildings of class Ia hereafter erected there shall be at least two (2) stairways located on opposite sides of the balcony, which shall lead either directly to the street or to the entrance corridor. If such stairways lead to the entrance corridor, the direction of the run of the last flight shall be toward the front exit opening, and the bottom stair shall be not more than twenty-five (25) feet from the front exit openings. In such cases the required width of the entrance corridor shall be increased at least ten (10) feet, and the stairways shall be so constructed that they will not interfere with the direct line of passage from the main floor to the required exit openings at the street front.

(b) In such buildings there shall be at least two (2) stairways located on opposite sides of the gallery which shall lead directly to the street by means of independent exits.

(c) In such buildings exit from the main floor shall be by inclined planes having a rise of not more than one (1) foot in ten (10) feet.

Section 212. (a) In buildings of class Ia hereafter erected stairways from the balcony or gallery shall be constructed of approved fire-resistive materials, and shall be provided with hand railings on



each side which shall be three (3) feet high, firmly attached to the walls and may be of wood.

(b) Stairways leading to an exit shall be so arranged that the run of the bottom flight shall be in the direction of such exit.

(c) Such stairways shall be at least four (4) feet wide and shall increase in multiples of eighteen (18) inches.

(d) No such stairway shall ascend to a greater height than thirteen (13) feet four (4) inches without a level landing, and the length and width of such landing shall be not less than the width of the stairway.

(e) No flight of stairs shall consist of less than six (6) risers between landings.

(f) Stairways seven (7) feet or more in width shall have double intermediate hand rails with end newel posts at least seven (7) feet high.

(g) The pitch of the stairway shall be not more than an eight (8) inch rise by not less than a nine (9) inch tread.

(h) Circular stairways or winders will not be permitted to such buildings.

(i) Stairways leading to a box or boxes shall be independent of all other stairways, and shall be not less than two (2) feet six (6) inches wide in the clear with hand rails securely attached to the wall.

(j) In such buildings there shall be at least one (1) stairway two (2) feet six (6) inches wide to the fly gallery. Where such stairway is not used for access to dressing rooms a ship ladder may be substituted. From the fly gallery to the gridiron an iron or steel wall ladder will be permitted. From the gridiron there shall be a straight run shipladder leading to a bulkhead in the roof.

(k) On the stage side of the proscenium wall no stairway shall be less than two (2) feet six (6) inches wide.

(l) Nothing in this section shall be construed to prevent the construction of additional stairways leading from the galleries or balcony, or other parts of the auditorium, to the vestibule or lobby; provided that, such stairways are constructed as required by this act.

Section 213. (a) In buildings of class Ia hereafter erected the minimum width of main aisles with divergent sides shall be two (2) feet four (4) inches at the end nearest the stage and not less than three (3) feet six (6) inches at the farther end. The minimum width of main aisles with parallel sides shall be not less than three (3) feet. Wall aisles shall have a minimum width of not less than three (3) feet.

(b) On the main floor of such buildings steps or stairs will not be permitted in aisles. Steps will be permitted in main aisles of the



balcony or gallery; provided that, the pitch of such balcony or gallery on the central axis shall be such that no rise shall exceed nineteen (19) inches on a platform of thirty (30) inches; and provided further that, no rise shall be more than twenty-one (21) inches.

Section 214. (a) In buildings of class Ia hereafter erected, there shall be no risers in corridors and passageways leading from the auditorium to exits or stairways. To overcome differences of level inclines shall be employed of not over one (1) foot rise in ten (10) feet.

(b) Where stairs or steps are placed in outside corridors and passageways they shall not be isolated, but shall be grouped together and properly lighted.

(c) No corridor or passageway shall be less than five (5) feet in width, and no doorway for public use shall be less than three (3) feet six (6) inches in width.

Section 215. (a) In buildings of class Ia hereafter erected the height of the floor of the entrance corridor at the sidewalk shall be not more than eight (8) inches above the sidewalk; except that, where the sidewalk is constructed on an incline grade, necessary additional risers will be permitted.

(b) Exits constructed as required by this act may be used for entrances.

Section 216. (a) In buildings of class Ia hereafter erected floors in the auditorium, and at all exits, shall be flush with adjacent floors.

(b) Within such building no step downward shall be nearer than four (4) feet to any door or exit opening. Where any door or exit opening leads to the outside of the building steps downward will be permitted within one (1) foot of such door or exit opening only on the exterior side thereof.

Section 217. (a) In buildings of class Ia hereafter erected, toilet, retiring, smoking, cloak and office rooms and, all rooms which do not have a direct exit to the street, shall have at least one (1) exit opening onto a corridor or passageway outside of the auditorium.

(b) No mirror or architectural feature shall be so arranged as to give the appearance of a doorway window, corridor or passageway when none exists.

Section 218. (a) In buildings of class Ia hereafter erected there shall be not more than fourteen (14) seats in any one (1) row between aisles.

(b) Seats shall be not less than twenty (20) inches in width measured at the top of the seat backs. Rows of seats shall be not less than thirty (30) inches from back to back.

(c) The number of rows of seats on the main floor shall not exceed fifteen (15), unless an intervening or cross aisle is provided between each fifteen (15) rows of seats.

(d) Every main floor, balcony and gallery shall have at least one (1) cross aisle at least five (5) feet in width from the back of the seats in front to the back of the seats behind extending across the auditorium to an exit in a side wall. Where there is only one (1) such cross aisle it shall lead from the center exit at one side wall to the center exit at the other side wall. There shall be one (1) such cross aisle for every twelve (12) feet of rise in any balcony or gallery.

(e) Seats in loges and boxes shall be limited in the ratio of one (1) seat for every five (5) square feet of floor area in such loge or box.

(f) All seats except in loges and boxes shall be securely fastened to the floor.

Section 219. (a) In buildings of class Ia hereafter erected, the lower floor shall be designated the "main floor." The first floor or tier above shall be designated "balcony," and the second floor or tier above shall be designated "gallery."

(b) Only one (1) gallery will be permitted.

Section 220. (a) In buildings of class Ia hereafter erected over every exit from the auditorium and the stage there shall be placed an illuminated sign with the word "exit" thereon in red letters at least eight (8) inches high.

(b) All means of egress shall have signs indicating the way out to the public thoroughfare.

Section 221. In buildings of class Ia hereafter erected the fronts of each gallery shall be constructed of approved fire-resistive materials; except that, the capping may be of wood.

Section 222. (a) In buildings of class Ia hereafter erected the partitions in that portion of the building which contains the auditorium, the entrance vestibule, and every room and passage devoted to the use of the audience, shall be constructed of approved fire-resistive materials.

(b) No wall or ceiling shall be covered with wood sheathing, canvas or any easily combustible material; and no draping or bunting shall be used for decorative purposes unless treated with an approved fire-resistive solution, and tested and approved by the local or State fire marshal.

Section 223. In buildings of class Ia hereafter erected ceilings under each gallery shall be entirely formed of approved fire-resistive

materials, and the ceiling of the auditorium shall be constructed of approved fire-resistive materials. All lathing whenever used shall be of metal.

Section 224. In buildings of class Ia hereafter erected the capacity of foyers, lobbies, corridors, and passageways outside of the auditorium on the main floor, and on each balcony and gallery floor, shall be sufficient to contain the whole number of persons to be accommodated on that floor in the ratio of one and one-half ( $1\frac{1}{2}$ ) square feet of floor area for each person.

Section 225. (a) In buildings of class Ia hereafter erected there shall be not less than two (2) exits located in the rear wall of the building as far apart as practicable, and opening directly upon a street or alley. There shall be no exits or exit openings in the walls adjoining the courts herein required for buildings of this class. Such exits shall be not less than four (4) feet in width in the clear.

(b) All entrances to and exits from the stage shall be equipped with approved self-closing hinged doors, and shall be vestibuled in such manner as to protect the stage from drafts of air.

Section 226. (a) In buildings of class Ia hereafter erected there shall be a proscenium wall constructed of brick and of approved thickness. Above the proscenium openings there shall be an iron or steel girder covered with approved fire-resistive materials to protect it from the heat. There shall also be constructed a relieving arch over the same, the intervening space being filled in with hard burnt brick of the full thickness of the proscenium wall. There shall be no openings in such wall except as follows:

(b) One (1) principal opening for the stage and not more than two (2) other openings located at or below the level of the stage. No wood finishing or ornamental work of combustible material will be permitted around such openings.

(c) Such openings, with the exception of the principal stage openings, shall be equipped with approved self-closing hinged fire doors not exceeding twenty-one (21) square feet in area, and which may be opened from either side. There shall be a direct access to these doors from both sides.

Section 227. (a) In buildings of class Ia hereafter erected the principal proscenium opening shall be equipped with an approved steel curtain which when lowered will completely close such opening. This curtain shall be raised and lowered by a hydraulic cylinder, and shall be in constant use as the regular curtain. Such curtain shall be lowered at least once between the opening and closing of every performance.



(b) The lowering of the curtain shall be controlled from not less than two (2) points in the building, one (1) of which shall be from the stage level, and the other shall be designated by the State Building Commissioner or Chief Building Inspector.

(c) Plans for every such curtain shall be approved by the State Building Commissioner or Chief Building Inspector and a permit obtained therefor previous to its erection.

Section 228. (a) In buildings of class Ia hereafter erected the stage section, the auditorium and every portion of the building devoted to the uses or accommodation of the public, also all corridors and passageways leading to streets, alleys and courts shall be adequately lighted, during every performance, subject to the approval of the State Building Commissioner or Chief Building Inspector, and shall remain so lighted until the entire audience has left the premises.

(b) No light other than approved electric shall be used in any part of the building; except that, in dressing rooms stationary gas fixtures having not larger than "one foot" burners may be used. These shall have securely fastened to the fixtures strong wire guards or screens not less than ten (10) inches in diameter extending from one (1) foot below the burner to the ceiling.

(c) All exit lights and exit signs and all lights in outside courts and in lobbies, stairways, corridors and passageways, and other portions of the building to which the public may have access, shall be attached to the main circuit and in addition shall be connected to an approved storage battery provided with a suitable automatic cut-in switch and charging device.

(d) All lights at exits shall be controlled only by a special service switch connected directly with the source of supply and shall be under lock and key and accessible only to authorized persons.

(e) All lights in corridors, passageways, stairways and wherever else deemed necessary by the State Building Commissioner or Chief Building Inspector shall be guarded with approved wire net work.

(f) The stage switchboard shall have a metal hood over the top for its full length and fully protecting same from anything falling from above.

(g) The trough containing footlights shall be formed of and surrounded by approved fire-resistive materials.

(r) All ducts or shafts used for conducting heated air from main chandelier, or from any light or lights, shall be constructed of metal and made double with air space between.

Section 229. (a) In buildings of class Ia hereafter erected all that part of the stage construction including flooring and frame work outside of a line running from the sides of the principal pros-



cenium opening and the rear wall shall be entirely of fire-resistive construction. All other stage construction including the entire stage frame work shall be of fire-resistive materials; except that, the floor covering or flooring may be of wood. All fly galleries, rigging lofts, paint galleries, stairways, supports, stanchions, sheaves and pulleys shall be of iron or steel. All wood work about the stage, and all framing for scenery shall be painted with an approved fire-resistive solution.

(b) Scenery counterweights must be of fire-resistive materials that may be operated with ropes running in grooves or slotted channels; provided however that, small sand bags weighing not over eight (8) pounds may be used for counterweights. All counterweights shall be operated against the wall and so as not to overhang the stage.

(c) Scenery or stage paraphernalia of any kind shall be treated with an approved fire-resistive solution and stamped with the word "fire-resistive" with the date of the treatment in letters not less than one (1) inch high. Such scenery or stage paraphernalia or both so treated shall be tested and approved by the local or State fire marshal before being used. All draperies in the auditorium, including the drop curtain must be treated and tested in the same manner at least once a year and approved by the local or State fire marshal.

Section 230. (a) Dressing rooms in buildings of class Ia hereafter erected may be placed above or below the stage floor level. If such dressing rooms are on or above the first tier above the stage they shall be ventilated by windows in the outer walls, but no window opening shall be nearer than ten (10) feet from the level of the outside court, or from the level of the ground.

(b) If dressing rooms are placed below the stage floor level they shall be ventilated by mechanical means so that the air is changed at least six (6) times per hour. Each tier of dressing rooms so located shall have an independent exit leading directly to the outside of the building, and the passageway of such exit shall be entirely enclosed by walls constructed of approved fire-resistive materials.

(c) Walls of dressing rooms and all doors, shelving and cupboards in dressing rooms, storage or property rooms shall be constructed of approved fire-resistive materials.

Section 231. (a) There shall be built over the stage of buildings of class Ia hereafter erected one (1) or more vents or flues constructed of metal or other approved fire-resistive materials suitable for carrying off smoke and flame, and extending not less than fifteen (15) feet above the highest point of the roof of the stage and equivalent in area to ten (10) per cent. of the total area of the stage.

(b) Where additional stories are built above the stage, such vents or flues shall be carried out near the top of the stage walls, and shall

be continued along the exterior of the building to a point five (5) feet above the highest point thereof.

(c) Such vents or flues shall be equipped with metal dampers which will open by gravity. Such metal dampers or doors shall be kept in a closed position by a lock or latch capable of being operated by a fusible link and electric device so arranged that the operation of either one will cause the dampers to open. The electric device shall be operated by two (2) electric switches, one located at the electrician's station on the stage and the other at the stage fireman's station. Each switch shall have a sign with plain directions as to its operation thereon. No automatic sprinkler head shall be placed in the ventilator space above the roof line, or in any position where it would interfere with the heat acting on the fusible link.

Section 232. (a) In buildings of class Ia hereafter erected there shall be installed in the boiler room at least one (1) automatic fire pump of approved design and of sufficient capacity to supply all lines of hose connected with it when operated simultaneously. Such pump or pumps shall be supplied from the street main, and shall be ready for immediate use at all times during performances.

(b) Standpipes constructed as required by this act shall be provided on each tier as follows: One (1) on each side of the auditorium on each tier, one (1) on each side of the stage on each tier, and at least one (1) in the property room, and one (1) in the carpenter shop if the same be contiguous to the building. Such standpipes shall be equipped with standard fire department outlets, to which shall be attached two and one-half ( $2\frac{1}{2}$ ) inch hose provided with a suitable branch pipe and not less than three-quarters ( $\frac{3}{4}$ ) inch nozzle. At each outlet there shall be two (2) hose spanners, and each outlet shall be equipped with a gate valve. Hose shall be of a length sufficient to throw a stream of water to any point on each tier. Standpipes shall be kept clear of obstruction. The standpipe system shall be separate and distinct from every other system and shall be connected directly to the public water main and to the fire pump, and shall be kept constantly filled with water.

Section 233. (a) In buildings of class Ia hereafter erected a separate and distinct system of automatic sprinklers with fusible links of approved design, supplied with water from a tank, the capacity of which shall be sufficient to furnish water at a pressure to give not less than fifteen (15) pounds on the highest line of sprinklers and to supply at least twenty-five (25) per cent. of the sprinklers for at least twenty (20) minutes at the average rate of twenty (20) gallons per head per minute. Such tank shall be located at



least twenty-five (25) feet above the highest sprinkler and shall not be connected in any manner with the standpipes.

(b) Such sprinklers shall be installed up and around the proscenium opening, over the stage, in the scene dock, in the paint room, store-room, property room, scenery room, carpenter shop and dressing rooms, at such intervals as will protect each square foot of stage surface when said sprinklers are in operation. The pipe leading from the tank to the system shall be provided with a horizontal check valve placed between the tank and the first sprinkler to prevent water from being forced back into the tank.

(c) In addition there shall be a pipe leading from the main pipe of the system on the sprinkler side of the check valve to the street. There shall also be a horizontal check valve in this pipe between the sprinkler system and the siamese connection at the street to prevent the water in the tank from flowing to the street, and there shall be a drip pipe on the street side of the check valve to prevent this section freezing. Other additional devices may be added to this system to provide for a dry pipe system, subject to the approval of the State Building Commissioner or Chief Building Inspector. Such pipe at the street shall be equipped with an approved siamese connection for the use of the fire department, together with local standard fire department outlets and self-closing valves, and shall be marked "automatic sprinkler system."

Section 234. (a) On the stage in buildings of class Ia hereafter erected there shall be appointed one (1) station for the stage fireman and one (1) station for the electrician.

(b) The location of such stations shall be determined by the local or State fire marshal.

Section 235. (a) In buildings of class Ia hereafter erected there shall be on each side of the stage, and on each tier above the stage, two (2) axes and two (2) fifteen (15) foot hooks placed as designated by the local or State fire marshal. On each side of the stage, under the stage, on each fly gallery, also in the property room and other store-rooms and in each workshop there shall be kept in readiness for immediate use one (1) approved two and one half ( $2\frac{1}{2}$ ) gallon hand chemical fire extinguisher. There shall also be provided at least three (3) approved two and one-half ( $2\frac{1}{2}$ ) gallon hand chemical fire extinguishers for each main floor, balcony and gallery, placed as designated by the local or State fire marshal.

(b) In addition, there shall be kept in readiness for immediate use one (1) forty (40) gallon cask filled with water and six (6) fire pails on each side of the stage, under the stage, on each fly gallery, and a supply of fire pails in property and other store-rooms and in

work-rooms, said casks and buckets shall be painted red and lettered, "For Fire Purposes Only."

Section 236. (a) In buildings of class Ia hereafter erected the standpipes, automatic sprinklers, gas pipes, electric wires, hose, footlights, fire alarm boxes, proscenium curtain, switch boxes, ventilators, controlling levers, axes and pike poles, and all apparatus for the extinguishing of fire or guarding against the same, shall at all times be kept in a condition satisfactory to and under the control of the local or State fire marshal.

(b) All apparatus used for the prevention or extinguishing of fires shall be painted a bright red.

Section 237. Buildings of class Ia hereafter erected shall be connected with the local fire signaling system, where such system is or may be established; and where there is no such fire signaling system there shall be established a telephone or electric signal to the local fire department. The number and location of the alarm boxes shall be determined by the local or State fire marshal.

Section 238. In buildings of class Ia hereafter erected a system of telephonic intercommunication subject to the approval of the State Building Commissioner or Chief Building Inspector and the City Electrician, if there be such an officer, shall be installed between the manager's office and the box office, one (1) side of the stage, fly galleries, and space beneath the stage.

Section 239. Buildings of class Ia hereafter erected in which motion pictures are exhibited shall have a machine booth constructed of approved fire-resistive materials, ventilated to the outer air and built in the same manner as required for machine booths in buildings of class Ib hereafter erected.

Section 240. (a) Every steam boiler in buildings of class Ia hereafter erected which may be required for heating or other purposes, shall be located either outside of the main walls of the building or back of the proscenium wall; provided that, when within the main walls of the building they are not under any dressing room or exit passageway. In all cases such steam boilers shall be in a room enclosed by walls and ceilings constructed of approved fire-resistive materials, and all openings in such walls shall be equipped with approved self-closing fire doors.

(b) No coil or radiator shall be placed in any aisle or passageway used as an exit unless in recesses above the floor. Such recesses may be guarded with a removable grille or screen.

(c) All supply, return or exhaust pipes shall be encased with approved fire-resistive materials where passing through floors.



Section 241. No workroom, scene dock, storage or general property room in buildings of class Ia hereafter erected shall be allowed above the auditorium or the stage, or under the stage or in any of the fly galleries. Such rooms or shops may be located in the rear or at the side of the stage, but in such cases they shall be separated from the stage by a wall built of brick extending to the ceiling of the stage. Openings in such walls shall have approved self-closing hinged fire doors.

Section 242. The use of ordinary hot air furnaces or stoves in buildings of class Ia hereafter erected is prohibited.

Section 243. It shall be the duty of the owner, lessee or manager of buildings of class Ia hereafter erected to cause to be printed on all programs furnished for any performance on the page opposite that upon which the cast is printed, a diagram showing conspicuously the place of every exit. A diagram showing the location of every seat in each tier, and also of the exits leading from each tier, drawn to a scale of one-eighth ( $\frac{1}{8}$ ) of an inch to the foot, shall be posted in a conspicuous place in the box office so as to be easily seen by the public. Two (2) copies of such diagram shall be sent to the State Building Commissioner or Chief Building Inspector, one of which shall be kept on file in his office and the other shall be for the use of his Inspector in inspecting buildings of this class. Additional copies shall be furnished the State Building Commissioner or Chief Building Inspector upon request.

Section 244. (a) In buildings of class Ia hereafter erected one (1) adult male person shall be employed as a special stage fireman, subject to the approval of the local or State fire marshal. During the time the building is occupied by the public such stage fireman shall wear a uniform and badge prescribed by the local or State fire marshal, and shall be responsible to and under the direction and control of such local or State fire marshal. Such special stage fireman shall be on duty at least thirty (30) minutes prior to the commencement of the performance and remain on duty until the entire audience has left the building.

(b) It shall be the duty of such special stage fireman to see that all fire appliances are in their proper places and in good working order; that the tanks supplying the standpipes and the sprinkler system are full of water; that the ventilator above the stage and other ventilating apparatus are in operation and in good working order. Such special stage fireman shall make daily reports in duplicate, in such manner and form as the local or State fire marshal shall prescribe. The original of the aforesaid report shall be delivered to the local or State fire marshal and the duplicate thereof

shall be delivered to the person employing him or to his authorized agent.

(c) Nothing in this section shall be construed to prohibit the employment of such special stage fireman for other purposes when the building is not occupied by the public.

Section 245. (a) In buildings of class Ia hereafter erected the location and position of all hand fire apparatus required by this act shall be determined by the local or State fire marshal and shall not be removed from that position except when actually in use or for purposes of instruction and inspection. When through such apparatus shall be replaced in good working order. All hand fire extinguishers shall be fastened in position by a fine cord that may be easily broken, and such cord shall be sealed with a tag showing the date of sealing.

(b) Attached to the nozzle of all chemical hand fire extinguishers shall be a long needle of steel wire suitable for cleaning out the opening of the nozzle in case it should become clogged up.

Section 246. All employees engaged in or about buildings of class Ia hereafter erected shall be required to know how to operate all fire apparatus in the building, and it shall be the duty of the person engaging such employees or operating such building to see that all employees are properly and thoroughly instructed.

Section 247. (a) In buildings of class Ia hereafter erected there shall be separate water-closets on the stage for men and for women.

(b) In such buildings there shall be at least one (1) jet or bubbler drinking fountain located near the entrance on the main floor of the auditorium. This drinking fountain shall be either readily accessible from all parts of the auditorium or it shall be the duty of the lessee or manager of such building to promptly supply patrons with drinking water upon request. The use of a public drinking cup is prohibited. Individual sanitary cups shall be available.

(c) There shall be at least one (1) general toilet room for men and one (1) general toilet room for women which shall be easily accessible from all parts of the auditorium. Such toilet room shall have one (1) water-closet for each two hundred (200) women or fractional part thereof, and one (1) water-closet for each four hundred (400) men or fractional part thereof, and one (1) urinal for each one hundred (100) men or fractional part thereof. In the balcony and gallery there shall be urinals in the ratio of one (1) for each two hundred (200) men or fractional part thereof in such balcony or gallery. In estimating the number of water-closets and urinals that will be required it is assumed that the audience will be equally divided between men and women.



(d) All toilet rooms shall be plainly designated.

(e) If no public system of water supply and sewerage is available, there shall be installed a private system of water supply and sewerage subject to the approval of the Local Board of Health or State Department of Health.

#### Special Requirements for Buildings of Class Ia Prior Erected— Theaters.

Section 248. In class I shall be included buildings in which people congregate for amusement, entertainment, social intercourse or worship.

(a) Theaters.

(b) Motion picture theaters.

(c) Assembly halls.

(d) Grandstands, summer theaters, observation towers, exhibition and fair buildings, amusement parks and roof gardens.

Section 249. (a) The following requirements for buildings of class Ia prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 250. Buildings of class Ia prior erected which are hereafter altered or enlarged shall be altered or enlarged in conformity with the requirements of this act relating to buildings of class Ia hereafter erected.

Section 251. Buildings of class Ia prior erected shall be so designed and constructed that the floors shall safely sustain, in addition to the weight of the floor construction, partitions, permanent fixtures and mechanisms, a live load of not less than one hundred (100) pounds on every square foot of surface; and the stairways and fire escapes a live load of not less than one hundred and fifty (150) pounds on every square foot of treads and landings.

Section 252. (a) All means of egress from buildings of class Ia prior erected shall be by doors which shall easily open outward by hand pressure.

(b) Two (2) front doors only, which are not used as emergency exits, may be locked except during the time the building is occupied by the public. All other doors including all exit doors and the principal stage door shall not be provided with any form of lock or locking mechanism other than a removable bar at least six (6) inches wide and one and one-quarter ( $1\frac{1}{4}$ ) inches thick. This bar is to be

supported on the door and door frame by "L" shaped castings or forgings in such a manner that, to unlock the door, the bar must be lifted upwards to disengage it from the supports.

No other form of support will be permitted.

(c) About the middle of each bar there shall be painted on each side the words "closed" "unlawful." These words "closed" "unlawful" shall be visible when the door is barred no matter which side of the bar is placed outward. The words "open" "push" shall be painted on the doors in such a manner as to be covered by the bar when the door is barred, and to be exposed to the view of the audience when the door is unbarred. The lettering shall be at least five (5) inches in height.

(d) Such doors may be provided with approved panic locks, springs or light devices, not locks, to hold the doors in a closed position, and shall at all times permit the door to yield to the slightest hand pressure. Such devices shall be of approved design. Substitutes, equivalents or modifications of this method of locking the doors will not be permitted.

(e) All exit doors shall be unlocked and unbarred during the entire time that the building is occupied by the public.

Section 253. (a) In buildings of class Ia prior erected no wall projection, radiator or other obstruction of any kind shall be placed in any aisles, corridor, passageway or exit. No person except the necessary attendants shall be allowed to stand in or occupy any aisle, corridor, passageway or exit while such building is open to the public; but a space may be reserved back of the last row of seats on the main floor in which not more than ten (10) per cent. of the total seating capacity of the main floor will be permitted to stand; provided that, there shall be at least three (3) feet of floor area for each person standing.

(b) The unoccupied space on the main floor within the auditorium, exclusive of aisles, and the space reserved for standing room shall be sufficient to contain the whole number of persons accommodated or designated or intended to be accommodated therein in the ratio of one (1) square foot of floor area for each person.

(c) The space between the back row of seats and the foyer wall shall be free and unobstructed, and shall be at least five (5) feet in depth, and shall extend across the full width of the auditorium.

(d) There shall be placards posted in at least two (2) conspicuous places in such building stating the exact number of seats permitted and the exact number of persons permitted to stand. Such placards shall be signed by the State Building Commissioner or Chief Building Inspector.



Section 254. (a) Buildings of class Ia prior erected shall be ventilated by an approved mechanical system which will supply not less than one thousand five hundred (1,500) cubic feet of fresh air per hour to each person for whose accommodation is provided.

(b) Where the seating capacity is three hundred (300) or less, and where the seating capacity is greater than three hundred (300) during seasons when artificial heat is not needed, ventilation may be effected by windows; but the aggregate area of the windows when open, measured from the top to a line seven (7) feet above the floor, shall be not less than one-quarter ( $\frac{1}{4}$ ) of a square foot for each person for whom seating accommodation is provided.

(c) Artificial ventilation may be effected by fans mechanically operated, or by air intakes and outlets of approved capacity.

(d) Provision shall be made for the removal of an equal quantity of vitiated air with the introduction of fresh air. The vitiated air shall be drawn into ducts or flues and discharged above the roof of the building.

(e) The number, size and location of the air inlets and discharging ducts shall be such as to distribute the incoming air and remove the vitiated air evenly without exposing any person to direct draft.

(f) The fresh air supply shall be taken from outside the building; and no vitiated air, or air from basements, cellars, or other rooms shall be used for ventilating purposes, and such air shall be filtered when so ordered by the Local Board of Health or State Department of Health.

(g) Such buildings shall be thoroughly ventilated immediately before and immediately after each occupation, and the ventilating system shall be kept in constant operation during occupation.

(h) Blowers used to circulate air through ventilating pipes, ducts or flues, shall be electrically operated, and shall be provided with fusible links to stop the blowers automatically in case of fire. Such fusible links shall be connected with an automatic cut-out at the motor, and shall be located throughout the building at such places as may be approved by the local or State fire marshal. At least one (1) of such fusible links shall be located in each pipe, duct or flue.

(i) Dampers shall be provided at the intake of all ventilating pipes, ducts or flues, and shall be held open by a combustible cord.

Section 254 $\frac{1}{2}$ . (a) In buildings of class Ia prior erected the level of the main floor shall not be changed except within the limits set for buildings of class Ia hereafter erected.

(b) After one (1) year from the date of the passage of this act no such building may be maintained where the level of the main floor is more than eight (8) feet above the sidewalk level at the entrance.

Section 255. Buildings of class Ia prior erected shall all be of fire-resistive construction. Any such building failing to comply with this provision within two (2) years from the date of the passage of this act shall be ordered vacated and closed.

Section 256. Buildings of class Ia prior erected that are damaged by fire or water or by any other cause to the extent of twenty-five (25) per cent. of their market value shall not be reconstructed except in conformity with the requirements of this act for buildings of class Ia hereafter erected.

Section 257. In buildings of class Ia prior erected the floors or tiers in the auditorium shall be designated as in buildings of class Ia hereafter erected. The lowest floor shall be designated the "main floor;" the first floor or tier above, "balcony" and the second floor or tier above "gallery," and the floor or tier above that the "second gallery."

Section 258. (a) In buildings of class Ia prior erected fire escapes in use at or before the passage of this act may be retained; provided that, they meet with the approval of the State Building Commissioner or Chief Building Inspector; except that, no ladders or fire escapes composed wholly or partly of materials other than fire-resistive materials will be permitted. All such fire escapes and means of emergency exits must be removed.

(b) Where the fire escape is of the unenclosed type the bottom flight shall at all times rest on the ground, and the fire escape shall be protected by a hood or awning of approved fire-resistive materials throughout its entire length. Wherever possible such fire escapes shall be so arranged as not to pass any windows or openings. If necessary to pass windows or other openings, the bottom and inner side of the fire escape to a height of six (6) feet shall be covered with an approved fire-resistive material extending for a distance of five (5) feet on each side of such window or other opening.

(c) Platforms at exit doors shall be provided as is required for buildings of class Ia hereafter erected.

(d) At the owner's option interior stairways may be substituted, provided they are constructed of approved fire-resistive materials and are enclosed throughout their entire length by partitions of approved fire-resistive materials not less than four (4) inches in thickness. Openings leading to such stairways shall be provided with approved smoke tight fire doors. Such stairways shall be adequately lighted at all times when the building is open to the public, and shall lead directly to the street at the street level. Passageways, however, leading to a street will be permitted in the discretion of the State Building Commissioner or Chief Building Inspector, providing they are entirely enclosed with walls of approved fire-resistive materials.



Section 259. (a) In buildings of class Ia prior erected the aggregate width of stairways shall be equal to twenty (20) inches for every one hundred (100) of eating capacity and for fractional parts of one hundred (100) a proportionate part of twenty (20) inches shall be added, but no such stairway shall be less than four (4) feet wide in the clear, except as otherwise provided in this section.

(b) All such stairways shall have hand railings on each side thereof, and shall not ascend for a greater distance than the distance from floor to floor without a level landing, the length and width of which shall not be less than the width of the stairs. Stairways which are over seven (7) feet wide shall have double intermediate hand rails with end newel posts at least seven (7) feet high.

(c) Risers shall be not more than eight (8) inches in height and treads not more than ten (10) inches in width. Winding, circular stairways are prohibited except as may be otherwise provided.

(d) There shall be at least one (1) stairway in all such buildings leading from all balconies and galleries directly to the street by means of an independent exit; except that, where there is sufficient exit space, as provided under this section, in any vestibule or lobby such stairway may lead into such vestibule or lobby; provided that, the bottom flight thereof leads towards the street.

(e) In such buildings there shall be at least one (1) stairway two (2) feet six (6) inches wide to the fly gallery. Where such stairway is not used for access to dressing rooms a ship ladder may be substituted. From the fly gallery to the gridiron an iron or steel wall ladder will be permitted. From the gridiron there shall be a straight run ship ladder leading to a bulkhead in the roof.

(f) Every stairway leading to a box or boxes shall be independent of all other stairways or seats, and such stairway shall be not less than two (2) feet eight (8) inches wide in the clear. When such box or boxes seat not to exceed thirty (30) people, an additional five (5) inches shall be added to such stairway for each additional twenty-five (25) persons for whom seating capacity is provided.

(g) Every stairway on the stage side of the proscenium wall shall be not less than two (2) feet six (6) inches wide.

(h) Instead of increasing the width required for entrances, aisles, exits and stairways to that required by this act, the owner, lessee or manager of any such theater shall have the privilege of reducing the number of permanent seats therein until the same ratio between such width and number of seats as hereinbefore provided for shall be established; and if such privilege be taken advantage of, it shall be the duty of the State Building Commissioner or Chief Building Inspector to make inspection and certify that such ratio actually exists before such building may be opened to the public.



**Section 260.** (a) In buildings of class Ia prior erected there shall be not more than fourteen (14) seats in any one (1) row between aisles.

(b) Seats shall be not less than twenty (20) inches in width measured at the top of the seat backs. Rows of seats shall be not less than thirty (30) inches from back to back.

(c) The number of rows of seats on the main floor shall not exceed fifteen (15), unless an intervening or cross aisle is provided between each fifteen (15) rows of seats.

(d) Every main floor, balcony and gallery shall have at least one (1) cross aisle at least five (5) feet in width from the back of the seats in front to the back of the seats behind extending across the auditorium to an exit in a side wall. Where there is only one (1) such cross aisle it shall lead from the center exit at one side wall to the center exit at the other side wall. There shall be one (1) such cross aisle for every twelve (12) feet of rise in any balcony or gallery.

(e) Seats in loges and boxes shall be limited in the ratio of one (1) seat for every five (5) square feet of floor area in such loge or box.

(f) All seats except in loges and boxes shall be securely fastened to the floor.

**Section 261.** (a) In buildings of Class Ia prior erected the minimum width of main aisles with divergent sides shall be two (2) feet four (4) inches at the end nearest the stage and not less than three (3) feet six (6) inches at the farther end. The minimum width of main aisles with parallel sides shall be not less than three (3) feet. Wall aisles shall have a minimum width of not less than three (3) feet.

(b) On the main floor of such buildings steps or stairs will not be permitted in aisles. Steps will be permitted in main aisles of the balcony or gallery; provided that, the pitch of such balcony or gallery on the central axis shall be such that no rise shall exceed nineteen (19) inches on a platform of thirty (30) inches; and provided further that, no rise shall be more than twenty-one (21) inches.

(c) The State Building Commissioner or Chief Building Inspector shall have discretion to permit a pitch other than herein required where it is impracticable to change the construction of the main floor, balcony, or gallery.

**Section 262.** Buildings of Class Ia prior erected shall have at least two (2) exits from the stage, and at least one (1) of such exits shall be vestibuled so as to protect the stage and auditorium from draft.

Section 263. (a) There shall be built over the stage of buildings of Class Ia prior erected one (1) or more vents or flues constructed of metal or other approved fire-resistive materials suitable for carrying off smoke and flame, and extending not less than fifteen (15) feet above the highest point of the roof of the stage and equivalent in area to ten (10) per cent. of the total area of the stage.

(b) Where additional stories are built above the stage, such vents or flues shall be carried out near the top of the stage walls, and shall be continued along the exterior of the building to a point five (5) feet above the highest point thereof.

(c) Such vents or flues shall be equipped with metal dampers which will open by gravity. Such metal dampers or doors shall be kept in a closed position by a lock or latch capable of being operated by a fusible link and electric device so arranged that the operation of either one will cause the dampers to open. The electric device shall be operated by two (2) electric switches, one located at the electrician's station on the stage and the other at the stage fireman's station. Each switch shall have a sign with plain directions as to its operation thereon. No automatic sprinkler head shall be placed in the ventilator space above the roof line, or in any position where it would interfere with the heat acting on the fusible link.

(d) Where any such building is equipped with ventilating skylights which are satisfactory to the State Building Commissioner or Chief Building Inspector, they may be retained; and vents and flues as described in this section need not be installed.

Section 264. Buildings of Class Ia prior erected shall be provided with standpipes and sprinkler systems as required for buildings of Class Ia hereafter erected; provided that, where buildings of Class Ia prior erected are equipped with standpipes and automatic sprinklers which, in the discretion of the State Building Commissioner or Chief Building Inspector, are satisfactory and reasonably sufficient for the protection of life and property, the same may be retained.

Section 265. (a) Buildings of Class Ia prior erected shall have the same amount of exit space at the street front as required for buildings of Class Ia hereafter erected; except that, where from the nature of the construction the number of exits at the street front cannot be increased the aggregate amount of exit space in other parts of the auditorium shall be increased so that the total aggregate exit space will be the same.

(b) Direct access by means of an unobstructed passageway or aisle shall be had to all exits from the auditorium.

(c) Where portions of the building are used for other purposes they shall be separated from all portions of the building used for

purposes of this class by unpierced fire-resistive partitions or fire walls; except that, where such partitions or walls are impracticable, existing partitions or walls shall be lined solidly with brick so that there are no openings.

Section 266. (a) Buildings of Class Ia prior erected shall have a proscenium wall constructed of approved fire-resistive materials of a thickness and with openings subject to the approval of the State Building Commissioner or Chief Building Inspector.

(b) All such buildings shall have a proscenium curtain constructed, installed and operated in the manner required for proscenium curtains in buildings of Class Ia prior erected.

Section 267. (a) In buildings of Class Ia prior erected the frame work of the stage shall be constructed of approved fire-resistive materials wherever practicable. If not constructed of approved fire-resistive materials the underside of the stage shall be painted with an approved fire-resistive solution, and the space beneath the stage shall be amply protected by automatic sprinklers.

(b) Fly galleries and gridirons and all railings and supports and sheaves, pulleys and cables shall be of iron or steel and all wood and framing for scenery shall be painted with an approved fire-resistive solution.

(c) Scenery counterweights must be of fire-resistive materials that may be operated with ropes running in grooves or slotted channels; provided however that, small sand bags weighing not over eight (8) pounds may be used for counterweights. All counterweights shall be operated against the wall and so as not to overhang the stage.

(d) Scenery or stage paraphernalia of any kind shall be treated with an approved fire-resistive solution and stamped with the word "Fire-resistive" with the date of the treatment in letters not less than one (1) inch high. Such scenery or stage paraphernalia or both so treated shall be tested and approved by the Local or State Fire Marshal before being used. All draperies in the auditorium, including the drop curtain must be treated and tested in the same manner at least once a year and approved by the Local or State Fire Marshal.

Section 268. (a) In buildings of Class Ia prior erected, toilet, retiring, smoking, cloak and office rooms and all rooms which do not have a direct exit to the street, shall have at least one (1) exit opening on to a corridor or passageway outside of the auditorium.

(b) No mirror or architectural feature shall be so arranged as to give the appearance of a doorway, window, corridor or passageway when none exists.



Section 269. (a) In buildings of Class Ia prior erected the stage section, the auditorium and every portion of the building devoted to the uses or accommodation of the public, also all corridors and passageways leading to streets, alleys and courts shall be adequately lighted, during every performance, subject to the approval of the State Building Commissioner or Chief Building Inspector, and shall remain so lighted until the entire audience has left the premises.

(b) No light other than approved electric shall be used in any part of the building; except that, in dressing rooms stationary gas fixtures having not larger than "one foot" burners may be used. These shall have securely fastened to the fixtures strong wire guards or screens not less than ten (10) inches in diameter extending from one (1) foot below the burner to the ceiling.

(c) All exit lights and exit signs and all lights in outside courts and in lobbies, stairways, corridors and passageways, and other portions of the building to which the public may have access, shall be attached to the main circuit and in addition shall be connected to an approved storage battery provided with a suitable automatic cut-in switch and charging device.

(d) All lights at exits shall be controlled only by a special service switch connected directly with the source of supply and shall be under lock and key and accessible only to authorized persons.

(e) All lights in corridors, passageways, stairways and wherever else deemed necessary by the State Building Commissioner or Chief Building Inspector shall be guarded with approved wire net work.

(f) The stage switchboard shall have a metal hood over the top for its full length and fully protecting same from anything falling from above.

(g) The trough containing footlights shall be formed of and surrounded by approved fire-resistive materials.

(h) All ducts or shafts used for conducting heated air from the main chandelier, or from any light or lights, shall be constructed of metal and made double with air space between.

Section 270. (a) Dressing rooms in buildings of Class Ia prior erected may be placed above or below the stage floor level. If such dressing rooms are on or above the first tier above the stage they shall be ventilated by windows in the outer walls, but no window opening shall be nearer than ten (10) feet from the level of the outside court, or from the level of the ground.

(b) If dressing rooms are placed below the stage floor level they shall be ventilated by mechanical means so that the air is changed at least six (6) times per hour. Each tier of dressing rooms so located shall have an independent exit leading directly to the out-

side of the building, and the passageway of such exit shall be entirely enclosed by walls constructed of approved fire-resistive materials.

(c) Walls of dressing rooms and all doors, shelving and cupboards in dressing rooms, storage or property rooms shall be constructed of approved fire-resistive materials.

Section 271. (a) On the stage in buildings of Class Ia prior erected there shall be appointed one (1) station for the stage fireman and one (1) station for the electrician.

(b) The location of such stations shall be determined by the Local or State Fire Marshal.

Section 272. (a) In buildings of Class Ia prior erected there shall be on each side of the stage, and on each tier above the stage, two (2) axes and two (2) fifteen (15) foot hooks placed as designated by the Local or State Fire Marshal. On each side of the stage, under the stage, on each fly gallery, also in the property room and other store rooms, and in each workshop there shall be kept in readiness for immediate use one (1) approved two and one-half ( $2\frac{1}{2}$ ) gallon hand chemical fire extinguisher. There shall also be provided at least three (3) approved two and one-half ( $2\frac{1}{2}$ ) gallon hand chemical fire extinguishers for each main floor, balcony and gallery, placed as designated by the Local or State Fire Marshal.

(b) In addition, there shall be kept in readiness for immediate use one (1) forty (40) gallon cask filled with water and six (6) fire pails on each side of the stage, under the stage, on each fly gallery, and a supply of fire pails in property and other store rooms and in work rooms; said casks and buckets shall be painted red and lettered "For Fire Purposes Only."

Section 273. (a) In buildings of Class Ia prior erected the standpipes, automatic sprinklers, gas pipes, electric wires, hose, footlights, fire alarm boxes, proscenium curtain, switch boxes, ventilators, controlling levers, axes and pike poles, and all apparatus for the extinguishing of fire or guarding against the same, shall at all times be kept in a condition satisfactory to and under the control of the Local or State Fire Marshal.

(b) All apparatus used for the prevention or extinguishing of fires shall be painted a bright red.

Section 274. Buildings of Class Ia prior erected shall be connected with the local fire signaling system, where such system is or may be established; and where there is no such fire signaling system there shall be established a telephone or electric signal to the local fire department. The number and location of the alarm boxes shall be determined by the Local or State Fire Marshal.



Section 275. In buildings of Class Ia prior erected a system of telephonic intercommunication subject to the approval of the State Building Commissioner or Chief Building Inspector and the City Electrician, if there be such an officer, shall be installed between the manager's office and the box office, one (1) side of the stage, fly galleries, and space beneath the stage.

Section 276. Buildings of Class Ia prior erected in which motion pictures are exhibited shall have a machine booth constructed of approved fire-resistive materials, ventilated to the outer air and built in the same manner as required for machine booths in buildings of Class Ib hereafter erected.

Section 277. No work room, scene dock, storage or general property room in buildings of Class Ia prior erected shall be allowed above the auditorium or the stage, or under the stage or in any of the fly galleries. Such rooms or shops may be located in the rear or at the side of the stage, but in such cases they shall be separated from the stage by a wall built of brick extending to the ceiling of the stage. Openings in such walls shall have approved self-closing hinged fire doors.

Section 278. The use of ordinary hot air furnaces or stoves in buildings of Class Ia prior erected is prohibited.

Section 279. It shall be the duty of the owner, lessee or manager of buildings of Class Ia prior erected to cause to be printed on all programs furnished for any performance on the page opposite that upon which the cast is printed, a diagram showing conspicuously the place of every exit. A diagram showing the location of every seat in each tier, and also of the exits leading from each tier, drawn to a scale of one-eighth ( $\frac{1}{8}$ ) of an inch to the foot, shall be posted in a conspicuous place in the box office so as to be easily seen by the public. Two (2) copies of such diagram shall be sent to the State Building Commissioner or Chief Building Inspector, one of which shall be kept on file in his office and the other shall be for the use of his inspector in inspecting buildings of this class. Additional copies shall be furnished the State Building Commissioner or Chief Building inspector upon request.

Section 280. In buildings of Class Ia prior erected one (1) adult male person shall be employed as a special stage fireman, subject to the approval of the Local or State Fire Marshal. During the time the building is occupied by the public such stage fireman shall wear a uniform and badge prescribed by the Local or State Fire Marshal, and shall be responsible to and under the direction and control of such Local or State Fire Marshal. Such special stage fireman



shall be on duty at least thirty (30) minutes prior to the commencement of the performance and remain on duty until the entire audience has left the building.

(b) It shall be the duty of such special stage fireman to see that all fire appliances are in their proper places and in good working order; that the tanks supplying the standpipes and the sprinkler system are full of water; that the ventilator above the stage and other ventilating apparatus are in operation and in good working order. Such special stage fireman shall make daily reports in duplicate, in such manner and form as the Local or State Fire Marshal shall prescribe. The original of the aforesaid report shall be delivered to the Local or State Fire Marshal and the duplicate thereof shall be delivered to the person employing him or to his authorized agent.

(c) Nothing in this section shall be construed to prohibit the employment of such special stage fireman for other purposes when the building is not occupied by the public.

Section 281. (a) In buildings of Class Ia prior erected the location and position of all hand fire apparatus required by this act shall be determined by the Local or State Fire Marshal and shall not be removed from that position except when actually in use or for purposes of instruction and inspection. When through such apparatus shall be placed in good working order. All hand fire extinguishers shall be fastened in position by a fine cord that may be easily broken, and such cord shall be sealed with a tag showing the date of sealing.

(b) Attached to the nozzle of all chemical hand fire extinguishers shall be a long needle of steel wire suitable for cleaning out the opening of the nozzle in case it should become clogged up.

Section 282. All employees engaged in or about buildings of Class Ia prior erected shall be required to know how to operate all fire apparatus in the building, and it shall be the duty of the person engaging such employees or operating such building to see that all employees are properly and thoroughly instructed.

#### Special Requirements for Buildings of Class Ib Hereafter Erected. Motion Picture Theaters.

Section 283. In Class I shall be included buildings in which people congregate for amusement, entertainment, social intercourse or worship.

- (a) Theaters.
- (b) Motion Picture Theaters.
- (c) Assembly Halls.

- (d) Grandstands, Summer Theaters, Observation Towers, Exhibition and Fair Buildings, Amusement Parks and Roof Gardens.

Section 284. (a) The following special requirements for buildings of Class Ib hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 285. Buildings in Class Ib hereafter erected shall be so designed and constructed that the floors shall safely sustain, in addition to the weight of the floor construction, partitions, permanent fixtures and mechanisms that may be set upon them, a live load of not less than one hundred (100) pounds on every square foot of surface; and the stairs and stairways a live load of not less than one hundred and fifty (150) pounds on every square foot of treads and landings. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 286. (a) All means of egress from Buildings of Class Ib hereafter erected shall be by doors which shall easily open outward by hand pressure.

(b) Two (2) front doors only, which are not used as emergency exits, may be locked except during the time such building is occupied by the public. All other doors shall not be provided with any form of lock or locking mechanism other than a removable bar at least six (6) inches wide and one and one-quarter ( $1\frac{1}{4}$ ) inches thick. This bar shall be located five (5) feet from the floor, and shall be supported on the door and door frame by "L" shaped castings or forgings in such a manner that to unlock the door the bar must be lifted upwards to disengage it from the supports. No other form of supports will be permitted.

(c) About the middle of each bar, there shall be painted on each side the words "Closed" "Unlawful." These words, "Closed," "Unlawful," shall be visible when the door is barred no matter which side of the bar is placed outward. The words "Open," "Push" shall be painted on each exit door in such a manner as to be covered by the bar when the door is barred, and to be exposed to the view of the audience when the door is unbarred. The lettering shall be at least five (5) inches in height.

(d) Such doors may be provided with approved panic locks, springs or light devices, not locks, to hold the doors in a closed position, and shall at all times permit the door to yield to slight hand pressure. Such devices shall be of approved design. Substitutes, equivalents or modifications of this method of locking the doors will not be permitted.



(e) All exit doors shall be unlocked and unbarred during the entire time that such building is occupied by the public.

Section 287. (a) In buildings of Class Ib hereafter erected no wall projection, radiator or other obstruction of any kind shall be placed in any aisle, corridor, passageway or exit. No person, except the necessary attendants, shall be allowed to stand in or occupy any aisle, corridor, passageway or exit while such building is open to the public; but a space may be reserved back of the last row of seats in which not more than twenty (20) per cent. of the total seating capacity will be permitted to stand; provided that, there shall be at least three (3) square feet of floor area for each person standing. Such space, however, shall be separated from main aisles by approved railings, and shall be directly accessible to at least two (2) nearby exits.

(b) There shall be placards posted in at least two (2) conspicuous places in such building, stating the exact number of seats permitted, and the exact number of persons permitted to stand. Such placards shall be signed by the State Building Commissioner or Chief Building Inspector.

Section 288. (a) Buildings of Class Ib hereafter erected shall be ventilated by an approved mechanical system which will supply not less than one thousand five hundred (1,500) cubic feet of fresh air per hour to each person designed to be accommodated.

(b) The number, size and location of the air inlets and discharging ducts shall be such as to distribute the incoming air and remove the vitiated air evenly without exposing any person to direct draft.

(c) The fresh air supply shall be taken from outside the building, and no vitiated air, or air from basements, cellars, or other rooms shall be used for ventilating purposes, and such air shall be filtered when so ordered by the Local Board of Health or State Department of Health.

(d) Such buildings shall be thoroughly ventilated immediately before and immediately after each occupation, and the ventilating system shall be kept in constant operation during the occupation.

(e) All blowers used to distribute air through ventilating pipes, ducts or flues, shall be electrically operated, and shall be provided with fusible links to stop the blowers automatically in case of fire. Such fusible links shall be connected with an automatic cut-out at the motor, and shall be located in the motion picture machine booth.

(f) Dampers shall be provided at the intake of all ventilating pipes, ducts or flues, and shall be held open by a combustible cord.

(g) Exhausted or vitiated air shall be carried to a point at least two (2) feet above the roof.



Section 289. (a) Buildings of Class Ib hereafter erected, accommodating, or designed or intended to accommodate five hundred (500) or more persons, shall be of fire-resistive construction.

(b) Such buildings accommodating, or designed or intended to accommodate, less than five hundred (500) persons, shall have the exterior walls constructed of brick, stone or concrete of approved thickness. The roof may have wood sheathing and wood trusses. In such cases there shall be a ceiling covered in an approved manner with wire lath and plastered with cement plaster at least one (1) inch thick. The floor covering or flooring shall be of approved fire-resistive materials. Internal partitions or structures of wood or other materials not approved fire-resistive materials are prohibited.

Section 290. (a) Buildings of Class Ib hereafter erected, of fire-resistive construction, may be more than one (1) story in height. Such buildings of other than fire-resistive construction shall be not more than one (1) story in height.

(b) The least height between the floor covering or flooring and the ceiling in such buildings accommodating, or designed or intended to accommodate, less than three hundred (300) persons, shall be fourteen (14) feet. Where such buildings accommodate, or are designed or intended to accommodate, three hundred (300) or more persons, and less than five hundred (500) persons, the least height between the floor covering or flooring and the ceiling shall be sixteen (16) feet. Where such buildings accommodate, or are designed or intended to accommodate, five hundred (500) or more persons, the least height between the floor covering or flooring and the ceiling shall be eighteen (18) feet.

Section 291. (a) Buildings of Class Ib hereafter erected, and which accommodate, or are designed or intended to accommodate, more than two hundred and fifty (250) persons, shall not be erected or converted on a lot less than twenty-five (25) feet in width, and in all cases the length of the building shall be not more than four (4) times the width.

(b) Such buildings accommodating, or designed or intended to accommodate, not more than two hundred and fifty (250) persons, may be situated on a lot not less than twenty (20) feet in width; provided that, the depth of such building is never more than one hundred (100) feet, except where the depth is not more than four (4) times the width.

Section 292. (a) If buildings of Class Ib hereafter erected are built so as to form part of any other building, then the entire building shall be of fire-resistive construction.

(b) Wherever such buildings are built so that any of their walls or any part of their walls are common walls, then such common walls shall be unpierced fire walls.

Section 293. (a) Buildings of Class Ib hereafter erected may be located in buildings of fire-resistive construction that are used for other purposes; provided that, no halls or rooms used as places of assembly, hazardous occupations or businesses handling or dealing in materials of an easily inflammable or combustible nature, shall be permitted in such buildings.

(b) In all such cases there shall be separate exits to the street, and all parts of the building used for the purposes of Class Ib shall be separated from the rest of the building by unpierced fire walls of approved thickness.

(c) Structures built over the ceilings or roof of any such building shall be of fire-resistive construction.

Section 294. (a) Buildings of Class Ib hereafter erected shall have a frontage upon at least one (1) street.

(b) Such buildings accommodating, or designed or intended to accommodate, less than five hundred (500) persons, shall either have courts as required for such buildings accommodating, or designed or intended to accommodate five hundred (500) or more persons; or, in lieu thereof, they shall be located upon a lot abutting on either two (2) streets, or a street and a public alley at least ten (10) feet wide.

(c) Except as hereinafter provided, such buildings accommodating, or designed or intended to accommodate more than five hundred (500) persons, shall have on each side of the auditorium a court extending from the street in the front to the street or public alley in the rear, if there be such. Where there is no street or public alley in the rear, such courts shall extend to at least five (5) feet beyond the rear wall of the building, and there shall be a court in the rear connecting the two (2) side courts. Where less than one thousand (1,000) persons are accommodated, or designed or intended to be accommodated, the side and rear courts shall be not less than five (5) feet wide. Where one thousand (1,000) or more persons are accommodated, or designed or intended to be accommodated, such courts shall be not less than seven (7) feet wide. Such courts shall be paved with concrete or other approved fire-resistive materials. Differences in level shall be overcome by inclines having a rise of not more than one (1) foot in ten (10) feet. All courts shall be unobstructed from the ground to the sky.

(d) Such buildings accommodating, or designed or intended to accommodate more than five hundred (500) persons, and not more than one thousand (1,000) persons, which are located on a lot abut-



ting on a street in the front and a street in the rear, need have a court on but one (1) side, extending from the street in the front to the street in the rear. Such court shall be at least seven (7) feet wide.

(e) Where any such building is located on a corner lot or at the intersection of two (2) streets, a court will be required opposite only one (1) of such streets; provided, however, that such building shall have a frontage on such street throughout its entire length or width, as the case may be, and that all exits shall be at the sidewalk level or grade, and that no run shall have a rise of more than one (1) foot in ten (10) feet. Otherwise a court will be required on the street side where the exits are not at the sidewalk level or grade.

Section 295. In buildings of Class Ib hereafter erected the level of the front entrance at the sidewalk shall be not higher than eight (8) inches above the level of the sidewalk.

Section 296. (a) In buildings of Class Ib hereafter erected accommodating, or designed or intended to accommodate, not more than five hundred (500) persons, the front or that side having the principal entrance shall be as wide as the widest part of the auditorium.

(b) Such buildings accommodating, or designed or intended to accommodate, more than five hundred (500) persons, and abutting on a street in the front and on a street at least twenty (20) feet wide in the rear, or a public alley at least twenty (20) feet wide in the rear, will not be required to have the front or that side having the principal entrance to be as wide as the widest part of the auditorium; provided that, a free unobstructed space shall be preserved as the principal entrance corridor between the foyer wall and the street, such space to be centrally located between the sides of the building and to be of a width of not less than twenty five (25) per cent. more than the space required herein for exit openings at the front; and provided further that, the depth of that part of the building in front of the foyer wall which is used for other purposes shall be not more than twenty five (25) feet from the street front. In all such cases where such building abuts on a street at least twenty (20) feet wide in the rear, a court will be required on but one (1) side; provided that, such court is at least seven (7) feet wide and that it extends from street to street. Where such building abuts on a public alley in the rear it shall have courts on both sides as herein required.

Section 297. In buildings of Class Ib hereafter erected where the center line of the principal entrance extended shall intersect the central axis of the auditorium at an angle other than one hundred



and eighty (180) degrees, the side having such principal entrance shall have an unobstructed street frontage throughout the entire length or width of the auditorium, as the case may be, and the principal entrance corridor shall in no case be less than one half ( $\frac{1}{2}$ ) the width of the auditorium. Stores or obstructions of any kind will not be permitted in this entrance corridor. In all such cases, the center line of the principal entrance corridor extended shall intersect the central axis of the auditorium back of the last row of seats, and there shall be an unobstructed passage from all exit doorways in the foyer wall to the main entrance.

Section 298. In buildings of Class Ib hereafter erected the principal entrance corridor shall be unobstructed by booths, easels or obstructions or impediments of any kind whatever; except that, ticket booths will be permitted, provided they do not obstruct or reduce the required exit space. Pictures or lithographs may be hung on the walls of the principal entrance corridor; provided that, the same do not project more than six (6) inches into the corridor, and that they do not project into the required width of such principal entrance corridor. In addition, unframed lithographs may be suspended from above; provided that, the lower edges of such unframed lithographs do not come within seven (7) feet of the floor of the principal entrance corridor.

Section 299. In buildings of Class Ib hereafter erected no balcony shall be permitted.

Section 300. (a) In buildings of Class Ib hereafter erected steps or stairways are prohibited, except those leading to an office room, smoking room, check room, or retiring room. Differences in level shall be overcome by inclines having a rise of not more than one (1) foot in ten (10) feet.

(b) Where steps, stairways, corridors, or passageways lead into any office room, smoking room, check room or retiring room, there shall be at least two (2) exit doors in such room, so arranged that one (1) shall open in the direction of the nearest exit. All such steps, stairways, corridors, and passageways shall be at least four (4) feet in width throughout their entire length, and shall not be obstructed except by doors not less than three (3) feet six (6) inches in width in the clear. Such doors shall be double swinging doors, and shall not be provided with locks or catches of any kind.

Section 301. (a) In buildings of Class Ib hereafter erected mirrors are prohibited, except that, one (1) mirror not more than two (2) feet by four (4) feet in size will be permitted on either side of the auditorium or entrance corridor; provided that, the lower side of such mirror shall be not nearer than four (4) feet to the floor.

(b) In such buildings no architectural feature shall be so arranged as to give the appearance of a doorway, window, corridor, or passageway where none exists.

(c) In such buildings no doorway other than those herein provided will be permitted from the auditorium or principal entrance corridor.

Section 302. Buildings of Class Ib hereafter erected accommodating, or designed or intended to accommodate, not more than two hundred and fifty (250) persons, shall have at least two (2) exit openings at the street front, each having a width of at least five (5) feet in the clear; and two (2) exit openings at the rear, each having a width of at least five (5) feet in the clear.

(b) Such buildings accommodating, or designed or intended to accommodate, more than two hundred and fifty (250) persons, and not more than five hundred (500) persons, shall have at least three (3) exit openings at the street front, each having a width of at least five (5) feet in the clear; and two (2) exit openings in the rear, each having a width of at least six (6) feet in the clear.

(c) Such buildings accommodating, or designed or intended to accommodate, more than five hundred (500) persons, shall have at least three (3) openings at the street front, each having a width of at least five (5) feet in the clear. In addition, the aggregate width of such exit openings shall increase in the ratio of twenty (20) inches for each one hundred (100) persons or fractional part thereof more than five hundred (500). There shall be two (2) exit openings in the rear, each having a width of at least five (5) feet in the clear.

(d) Such buildings accommodating, or designed or intended to accommodate, more than five hundred (500) persons, shall have at least two (2) exit openings on each side of the auditorium directly opposite each other, each having a width of at least five (5) feet in the clear; except that, such exit openings will not be required in that side of the auditorium not abutting on a street or court, in cases where such building is located on a corner lot or on a lot at the intersection of two (2) streets. Such exit openings shall be located at points equally distant from the line of the first and last row of seats. There shall be one (1) additional such door on each side for each five hundred (500) persons or fractional part thereof more than one thousand (1,000).

(e) Where a court is required on but one side of such buildings, the number of exit openings in the wall on that side of the auditorium shall be not less than the number of exit openings required in both side walls on the auditorium when there are courts on both sides.



(f) Such building shall have at least one (1) exit opening in the rear wall on each side of the motion picture screen; except that where this is impracticable, such exit openings may be under the picture screen at equal distances from the side walls of the auditorium.

(g) All exit openings shall have a height of at least seven (7) feet in the clear; except that, when under the picture screen they need be but six (6) feet six (6) inches in height in the clear.

(h) All exits may be used for entrances; provided that, the provisions of this section are complied with.

(i) There shall be exit openings in the foyer wall, and in any partition between the foyer wall and the front of the building, to correspond in number and size with the exit openings herein required at the street front and directly opposite such exit openings. There shall be no obstruction of any kind whatever in the line of passage between such exits.

(j) The sills of exit openings shall be flush with the approach on either side.

Section 303. In buildings of Class Ib hereafter erected the floor level of the highest row of seats shall be not more than five (5) feet above the sidewalk level, and the floor level of the lowest row of seats shall not be more than six (6) feet below the sidewalk level. Both such levels shall be measured from the same sidewalk level.

Section 304. (a) In buildings of Class Ib hereafter erected the unoccupied space within the auditorium, exclusive of aisles and the space reserved for standing room, shall be sufficient to contain the whole number of persons accommodated, or designed or intended to be accommodated therein, in the ratio of one and one-half (1½) square feet of floor area for each person; provided that, the unoccupied space in front of the first row of seats shall not be counted for more than one-half (½) such total required unoccupied space.

(b) The space between the back row of seats and the foyer wall, and between the spaces reserved for standing room and the foyer wall, shall be free and unobstructed, and shall be at least five (5) feet in width, and shall extend across the full width of the auditorium.

Section 305. (a) In buildings of Class Ib hereafter erected there shall be at least one (1) main aisle which shall lead in a straight line to an exit at the street front. Where such main aisle has seats on both sides, it shall have a uniform width of not less than four (4) feet in the clear; where it has seats on only one (1) side, it shall have a uniform width of not less than three (3) feet six (6) inches in the clear.

(b) In such buildings having exits in the sides of the auditorium, as required by this act, there shall be a cross aisle leading to every side exit; except that, where but one (1) side court is required, no more cross aisles will be required than when there are two (2) side courts. Where there are more than two (2) main aisles, such cross aisles shall extend the full width of the auditorium; except that, where but one (1) side court is required, such cross aisle need extend only to the main aisle that is farthest from such side court. Such cross aisle shall have a uniform width of not less than four (4) feet in the clear.

(c) In such buildings, accommodating, or designed or intended to accommodate, more than two hundred and fifty (250) persons, there shall be at least two (2) main aisles.

**Section 306.** (a) In buildings of Class Ib hereafter erected there shall be not more than six (6) seats intervening between any one (1) seat and an aisle, nor more than thirteen (13) seats in any row between any two (2) aisles.

(b) Rows of seats shall be not less than thirty (30) inches apart, measured from back to back.

(c) All seats shall be separated by arms, and shall be not less than eighteen (18) inches in width between arms.

(d) All seats shall be securely fastened to the floor, and no swivel or revolving seats shall be permitted.

**Section 307.** In buildings of Class Ib hereafter erected a platform will be permitted in lieu of a stage, of not more than eight (8) feet in depth; provided that, no movable scenery is employed, and that a free unoccupied space of at least four (4) feet is preserved between the front of the platform and the first row of seats. Such platform shall be constructed entirely of approved fire-resistive materials, except that the floor covering or flooring may be of wood not less than seven-eighth ( $\frac{7}{8}$ ) inch thick.

**Section 308.** In buildings of Class Ib hereafter erected the picture screen shall be made of approved fire-resistive materials, or of materials treated with an approved fire-resistive solution that does not destroy the effectiveness of the picture screen, and approved by the Local or State Fire Marshal. Such picture screen shall be placed against the rear wall. Mirror screens will be permitted.

**Section 309.** (a) In every building of Class Ib hereafter erected all fuses and switches shall be enclosed in a box or boxes. Such box or boxes shall be surrounded by two (2) thicknesses of approved fire-resistive materials with an air space between them.

(b) All electrical equipment shall be installed and maintained as required by this act.



(c) All electrical wiring shall be carried in conduits which are properly grounded.

Section 310. (a) In every building of Class Ib hereafter erected, over every exit from the auditorium there shall be placed an illuminated sign with the word "Exit" thereon in letters of approved color at least eight (8) inches high.

(b) All means of egress shall have signs indicating the way out to the public thoroughfare.

Section 311. (a) Every portion of every building of Class Ib hereafter erected, including exits, aisles, courts, corridors, and passageways devoted to the use or accommodation of the public, shall be so lighted by electric light during all exhibitions, and until the entire audience has left the premises, that a person with normal eyesight shall be able to read Snellen Standard Test Type forty (40) at a distance of twenty (20) feet and type thirty (30) at a distance of ten (10) feet; normal eyesight meaning ability to read type twenty (20) at a distance of twenty (20) feet in daylight. Cards showing types twenty (20), thirty (30), and forty (40) shall be displayed in the principal corridor or passageway, together with a copy of this section.

(b) All means of egress outside the auditorium shall be adequately lighted at all times while the building is occupied by the public.

Section 312. (a) In buildings of Class Ib hereafter erected no light other than approved electric shall be used in any part of the building.

(b) All exit lights and exit signs and all lights in outside courts and in lobbies, stairways, corridors and passageways, and other portions of such building to which the public may have access, shall be attached to the main circuit, and, in addition, there shall be a separate circuit connected to an approved storage battery or dry battery system, provided with a suitable automatic cut-in switch. Such batteries shall be capable of sustaining all exit lights for at least one (1) hour after the main circuit is discontinued.

(c) All emergency lights shall be controlled only by a special service switch connected directly with the source of supply, and shall be under lock and key and accessible only to authorized persons.

(d) All lights in corridors, passageways, stairways and wherever else deemed necessary by the State Building Commissioner or Chief Building Inspector, shall be guarded with approved wire network.

(e) Lights used for lighting the Auditorium other than required lights shall be controlled from at least two (2) places, one of which

shall be the office or ticket booth, and one of which shall be the motion picture machine booth.

Section 313. (a) Buildings of Class Ib hereafter erected shall have a machine booth constructed of approved fire-resistive materials in an approved manner. Such booth when suspended from a wall or ceiling shall have a platform and be accessible by a permanent stairway or ladder.

(b) Where such booth is designed only to be used by one (1) operator, its cubical contents shall be at least three hundred and sixty-eight (368) cubic feet. An additional one-half ( $\frac{1}{2}$ ) of this amount shall be added for every additional operator whom the booth is designed to accommodate.

(c) The floor of such booth shall be designed and constructed to safely sustain a live load of one hundred (100) pounds per square foot exclusive of the weight of the floor construction, partitions and permanent fixtures or mechanisms.

(d) There shall be not more than two (2) windows in the booth opening into the auditorium, one for the operator and the other for the machine. The operator's window shall not be more than four (4) inches long and not more than twelve (12) inches high. Such windows shall be provided with gravity doors, which when closed shall overlap the window openings at least one (1) inch on all sides. Such doors shall be held open by a fine combustible cord in series with a fusible link and so arranged that the doors may easily be released by hand. Such cord shall be so arranged that some portion of the cord shall pass immediately over the place that the film issues from the magazine.

(e) The entrance door shall be a self-closing door.

(f) There shall be an inlet at least fifteen (15) inches long and three (3) inches high on each side of the booth, the lower side of which shall be not more than three (3) inches above the bottom of the booth. Such inlet shall be covered on the inside by a wire net of not greater than one-eighth ( $\frac{1}{8}$ ) inch mesh.

(g) There shall be a flue at least twelve (12) inches in diameter from every booth, which shall extend to at least two (2) feet above the roof of the building.

(h) All electric wires brought into the booth shall be carried in conduits. All lights shall be provided with wire guards.

(i) Rheostats, reducers, rectifiers or transformers shall be carried on iron or steel supports securely fastened to the floor.

(j) Every film except the film in the magazine or in the process of winding shall be kept in a separate metal case which shall be made without solder. Only one (1) film at a time may be exposed within the booth for the purpose of winding or rewinding.



(k) No combustible materials other than films in metal containers shall be kept in the motion picture machine booth.

Section 314. Portable machine booths will not be permitted in buildings of Class Ib hereafter erected.

Section 315. (a) In buildings of Class Ib hereafter erected the location and position of all hand fire apparatus required herein shall be determined by the Local or State Fire Marshal, and shall not be removed from that position except when actually in use or for purposes of instruction and inspection. When thorough, such apparatus shall be replaced in good working order. All hand fire extinguishers shall be fastened in position by a fine cord that may be easily broken, and such cord shall be sealed with a tag showing the date of ensealing. All chemical hand fire extinguishers shall be examined at least once in every six (6) months, and they shall be refilled when necessary, but in any case they shall be refilled at least once in every twelve (12) months.

(b) Attached to the nozzle of all chemical hand fire extinguishers shall be a long needle of steel wire suitable for cleaning out the opening of the nozzle in case it should become clogged up.

Section 316. All employes engaged in or about buildings of Class Ib hereafter erected shall be required to know how to operate all fire apparatus in the building, and it shall be the duty of the person engaging such employes or operating such building to see that all employes are properly and thoroughly instructed.

Section 317. (a) In buildings of Class Ib hereafter erected only steam or hot water heating systems will be permitted.

(b) The heater room, fuel room and firing room in such buildings shall be contained in a room or rooms, the floor, walls and ceiling of which are constructed and approved fire-resistive materials. Openings will be permitted, provided there is no opening directly into the auditorium; and provided further, that such openings are covered with approved self-closing hinged fire doors.

(c) No such room shall be located under any main aisle, cross aisle, seating space or under the standing space permitted by this act, or under any exit or approaches thereto.

(d) No cast iron boiler operated at more than ten (10) pounds pressure, or steel boiler operated at more than thirty-five (35) pounds pressure shall be located within the main walls of the building.

(e) All piping leading from the heater room to the risers shall be covered with an approved pipe covering at least one (1) inch in thickness, and pipe openings shall be completely filled in around the piping with approved fire-resistive materials.

(f) No coil or radiator shall be placed in any aisle, exit or passageway, unless such coil or radiator shall be placed in recesses above the floor level.

(g) All supply, return or exhaust pipes shall be encased with approved fire-resistive materials at least one (1) inch in thickness where passing through floors.

**Special Requirements for Buildings of Class Ib Prior Erected.—  
Motion Picture Theaters.**

Section 318. In this class shall be included all buildings in which people congregate for amusement, entertainment, social intercourse or worship.

(a) Theaters.

(b) Motion Picture Theaters.

(c) Assembly Halls.

(d) Grandstands, Summer Theaters, Observation Towers, Exhibition and Fair buildings, Amusement Parks and Roof Gardens.

Section 319. (a) The following special requirements for buildings of Class Ib prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 320. (a) Buildings of Class Ib prior erected shall be so designed and constructed that the floors shall safely sustain, in addition to the weight of the floor construction, partitions, permanent fixtures and mechanisms that may be set upon them, a live load of not less than one hundred (100) pounds on every square foot of surface; and the stairs and stairways a live load of not less than one hundred and fifty (150) pounds on every square foot of treads and landings.

(b) Whenever it may appear necessary, the State Building Commissioner or Chief Building Inspector will make tests and will order such changes as are necessary to bring the floors, stairways and fire escapes up to the strength required by this section.

Section 321. (a) All means of egress from buildings of Class Ib prior erected, shall be by doors which shall easily open outward by hand pressure.

(b) Two (2) front doors only, which are not used as emergency exits, may be locked except during the time the building is occupied by the public. All other doors shall not be provided with any form of lock or locking mechanism other than a removable bar at least six (6) inches wide and one and one-quarter ( $1\frac{1}{4}$ ) inches thick. This bar shall be located five (5) feet from the floor, and shall be sup-



ported on the door and door frame by "L" shaped castings or forgings in such a manner that, to unlock the door, the bar must be lifted upward to disengage it from the supports. No other form of supports will be permitted.

(c) About the middle of each bar, there shall be painted on each side the words "Closed" "Unlawful." These words, "Closed" "Unlawful," shall be visible when the door is barred no matter which side of the bar is placed outward. The words "Open" "Push" shall be painted on each exit door in such a manner as to be covered by the bar when the door is barred and to be exposed to the view of the audience when the door is unbarred. The lettering shall be at least five (5) inches in height.

(d) Such doors may be provided with approved panic locks, springs or light devices, not locks, to hold the doors in closed position, and shall at all times permit the door to yield to slight hand pressure. Such devices shall be of approved design. Substitutes, equivalents or modifications of this method of locking the doors will not be permitted.

(e) All exit doors shall be unlocked and unbarred during the entire time that such building is occupied by the public.

Section 322. (a) In buildings of Class Ib prior erected, no wall projection, radiator or other obstruction of any kind shall be placed in any aisle, corridor, passageway or exit. No person, except the necessary attendants, shall be allowed to stand in or occupy any aisle, corridor, passageway or exit while the building is open to the public; but a space may be reserved back of the last row of seats in which not more than twenty (20) per cent. of the total seating capacity will be permitted to stand; provided that, there shall be at least three (3) square feet of floor area for each person standing. Such space, however, shall be separated from main aisles by approved railings, and shall be directly accessible to at least one (1) exit on at least two (2) different sides.

(b) There shall be placards posted in at least two (2) conspicuous places in such building, stating the exact number of seats permitted, and the exact number of persons permitted to stand. Such placard shall be signed by the State Building Commissioner or Chief Building Inspector.

Section 323. (a) Buildings of Class Ib prior erected, shall be ventilated by an approved mechanical or natural system which will supply not less than one thousand five hundred (1,500) cubic feet of fresh air per hour to each person designed to be accommodated.

(b) The number, size and location of the air inlets and discharging ducts shall be such as to distribute the incoming air and remove the vitiated air evenly without exposing any person to direct draft.

(c) The fresh air supply shall be taken from outside the building, and no vitiated air, or air from basements, cellars, or other rooms shall be used for ventilating purposes, and such air shall be filtered when so ordered by the Local Board of Health or State Department of Health.

(d) Such buildings shall be thoroughly ventilated immediately before and immediately after each occupation, and the ventilating system shall be kept in constant operation during the occupation.

(e) Blowers used to distribute air through ventilating pipes, ducts or flues, shall be electrically operated, and shall be provided with fusible links to stop the blowers automatically in case of fire. Such fusible links shall be connected with an automatic cut-out at the motor, and shall be located in the motion picture machine booth.

(f) Dampers shall be provided at the intake of all ventilating pipes, ducts or flues, and shall be held open by a combustible cord.

(g) Exhausted or vitiated air shall be carried to a point at least two (2) feet above the roof.

Section 324. (a) Buildings of Class Ib prior erected, of frame construction, accommodating, or designed or intended to accommodate, not more than two hundred and fifty (250) persons, shall abut on a street in the front and a street or public alley in the rear, and shall have at least one (1) side space or court at least five (5) feet wide, extending from the street in the front to the street or public alley in the rear.

(b) Such building shall have at least two (2) exit openings at the street front, each having a width of at least five (5) feet in the clear, and two (2) exit openings at the rear, each having a width of at least five (5) feet in the clear; there shall be direct access to the street or public alley in the rear from the two (2) rear, exit openings.

(c) In such buildings there shall be at least one (1) exit opening, having a width of at least five (5) feet in the clear, opening onto a side space of court.

(d) In such buildings there shall be at least two (2) main aisles, one of which shall lead directly to an exit opening at the street front. Main aisles having seats on both sides shall have a uniform width of not less than four (4) feet in the clear, and where there are seats on only one (1) side, they shall have a uniform width of not less than three (3) feet six (6) inches in the clear.

(e) In such buildings there shall be not more than six (6) seats intervening between any one (1) seat and an aisle, nor more than thirteen (13) seats in any row between any two (2) aisles. Rows of seats shall not be less than thirty (30) inches apart measured from back to back. All seats shall be separated by arms, and shall be at least eighteen (18) inches in width from center to center. All



seats shall be securely fastened to the floor. No swivel or revolving seats will be permitted.

(f) Such buildings shall comply with the provisions of this act as to the construction and location of picture machine booths, picture screens and fire apparatus.

(g) In such buildings all interior walls, partitions and ceilings shall be covered with an approved fire and water resisting plaster of approved thickness laid on metal lath.

(h) In such buildings no balcony or gallery will be permitted.

(i) In such building there shall be no stairway or other opening leading from within the building to any basement or cellar.

(j) No such building shall be within the established fire limits or fire zone of any city or borough.

Section 325. Buildings of Class Ib prior erected, will not be permitted in any building of frame construction, any part of which is used for any other purpose, and no part of any such building shall be used for any other purposes.

Section 326. Buildings of Class Ib prior erected, of frame construction, accommodating, or designed or intended to accommodate, more than two hundred and fifty (250) persons, are prohibited, and the same shall be vacated and closed within six (6) months after the date of the approval of this act.

Section 327. (a) Buildings of Class Ib prior erected of mill construction or ordinary construction, accommodating, or designed or intended to accommodate, not more than two hundred and fifty (250) persons, shall abut on a street in the front and a street or public alley or a private, unobstructed passageway at least ten (10) feet in width, leading to a street or public alley in the rear.

(b) Such building shall have at least two (2) exit openings at the street front, each of which shall be at least five (5) feet in width in the clear. There shall be at least two (2) such exit openings in the rear, each having a width of not less than five (5) feet in the clear, and each having direct access to the street, public alley or private passageway in the rear. In addition, there shall be at least one (1) additional exit opening either at the street front or in the rear.

(c) Such building shall have at least two (2) main aisles, at least one of which shall lead directly to the exit opening at the street front. Main aisles having seats on both sides shall have a uniform width of not less than four (4) feet in the clear, and where there are seats on only one (1) side, they shall have a uniform width of not less than three (3) feet six (6) inches in the clear.

(d) In such buildings there shall be not more than six (6) seats intervening between any one (1) seat and an aisle nor more than

thirteen (13) seats in any row between any two (2) aisles. Rows of seats shall be not less than thirty (30) inches apart, measured from back to back. All seats shall be separated by arms, and shall be at least eighteen (18) inches in width from center to center. All seats shall be securely fastened to the floor, and no swivel or revolving seats will be permitted.

(e) Such building shall comply with the provisions of this act as to the construction and location of motion picture machine booths, motion picture screens and fire apparatus.

(f) In such buildings no balcony or gallery will be permitted.

(g) In such buildings there shall be no stairway or other openings leading from within the building to any basement or cellar.

(h) Such buildings, that are a part of any building that is used for other purposes, shall have all interior walls, partitions and ceilings covered with an approved fire and water resistive plaster of approved thickness, laid on metal lath. The uses of such other parts of such building shall be strictly limited to offices, and businesses not dealing in or handling any easily inflammable or combustible material, and no factory, department store or mercantile establishment will be permitted in such building.

Section 328. (a) Buildings of class 1b prior erected of mill construction or ordinary construction, accommodating or designed or intended to accommodate, more than two hundred and fifty (250) persons, and not more than five hundred (500) persons, shall abut on a street in the front and a street or public alley in the rear at least ten (10) feet in width, leading to a street or public alley. In addition, there shall be an open space or court at least five (5) feet in width extending on at least one (1) side from the street in front to the street, public alley or private passageway in the rear.

(b) Such buildings shall have at least three (3) exit openings at the street front, each having a width of at least five (5) feet in the clear; and at least two (2) exit openings in the rear, each having a width of at least six (6) feet in the clear. There shall be direct access from such exit openings in the rear to the street, public alley or private passageway in the rear. In addition, there shall be at least one (1) exit opening having a width of at least five (5) feet in the clear opening onto a side street or court.

(c) Such buildings shall have at least two (2) main aisles, at least one (1) of which shall lead directly to an exit opening at the street front. Main aisles having seats on both sides shall have a uniform width of not less than four (4) feet in the clear, and where there are seats on only one (1) side, they shall have a uniform width of not less than three (3) feet six (6) inches in the clear.

(d) In such buildings there shall be not more than six (6) seats intervening between any one (1) seat and an aisle, nor more than



thirteen (13) seats in any row between any two (2) aisles. Rows of seats shall be not less than thirty (3) inches apart, measured from back to back. All seats shall be separated by arms, and shall be at least eighteen (18) inches in width from centre to centre. All seats shall be securely fastened to the floor, and no swivel or revolving seats will be permitted.

(e) Such buildings shall comply with the provisions of this act as to the construction and location of motion picture machine booths, motion picture screens and fire apparatus.

(f) In such buildings no balcony or gallery will be permitted.

(g) In such buildings there will be no stairway or other openings leading from within the building to any basement or cellar.

(h) Such buildings, that are a part of any building that is used for other purposes, shall have all interior walls, partitions and ceiling covered with an approved fire and water resistive plaster of approved thickness, laid on metal lath. The uses of such other parts of such building shall be strictly limited to offices and businesses not dealing in or handling any easily inflammable or combustible material, and no factory, department store or mercantile establishment will be permitted in such building.

(i) There shall be separate exits leading to the street from all parts of the building in which such buildings are located.

Section 329. Buildings of class Ib prior erected, of mill construction or ordinary construction, and accommodating, or designed or intended to accommodate, more than five hundred (500) persons, are prohibited, and the same shall be vacated and closed within six (6) months after the date of the approval of this act.

Section 330. (a) Buildings of class Ib prior erected of fire-resistive construction, accommodating, or designed or intended to accommodate not more than two hundred and fifty (250) persons, shall abut on a street in the front and a street or public alley in the rear, or a private, unobstructed passageway in the rear, leading to a street or public alley.

(b) Such building shall have at least two (2) exit openings at the street front, each of which shall be at least five (5) feet in width in the clear. There shall be at least two (2) such exit openings in the rear, each having a width of five feet in the clear, and each having direct access to the street, public alley or private passageway in the rear. In addition, there shall be at least one additional such exit opening either at the street front or in the rear.

(c) Such building shall have at least two (2) main aisles, at least one (1) of which shall lead directly to an exit opening at the street front. Main aisles having seats on both sides shall have a uniform width of not less than four (4) feet in the clear, and where

there are seats on only one (1) side, they shall have a uniform width of not less than three (3) feet six (6) inches in the clear.

(d) In such buildings there shall be not more than six (6) seats intervening between any one (1) seat and an aisle, nor more than thirteen (13) seats in any row between any two (2) aisles. Rows of seats shall be not less than thirty (30) inches, measured from back to back. All seats shall be separated by arms, and shall be at least eighteen (18) inches in width from centre to centre. All seats shall be securely fastened to the floor, and no swivel or revolving seats will be permitted.

(e) Such buildings shall comply with the provisions of this act as to the construction and location of motion picture machine booths, motion picture screens and fire apparatus.

(f) In such buildings no balcony or gallery will be permitted.

(g) In such buildings there shall be no stairway or other openings leading from within the building to any basement or cellar.

(h) Such buildings, which are located in buildings, other parts of which are used for other purposes, shall be separated from the rest of such buildings by unpierced fire walls. No business dealing in or handling any highly inflammable or combustible materials will be permitted.

(i) There shall be separate exits leading to the street from all parts of the building in which such building is located.

Section 331. (a) Buildings of class Ib prior erected of fire-resistive construction, accommodating, or designed or intended to accommodate, more than two hundred and fifty (250) persons, and not more than five hundred (500) persons, shall either have courts as required for such buildings of fire-resistive construction, accommodating, or designed or intended to accommodate, more than five hundred (500) persons; or, in lieu thereof they shall be located upon a lot abutting on either two (2) streets or a street and a public alley at least ten (10) feet wide.

(b) Such buildings shall have at least three (3) exit openings at the street front, each having a width of at least five (5) feet in the clear; and at least two (2) exit openings in the rear, each having a width of at least six (6) feet in the clear.

(c) Such building shall have at least one (1) main aisle which shall lead in a straight line to an exit opening at the street front. Main aisles having seats on both sides shall have a uniform width of not less than four (4) feet in the clear, and where there are seats on only one (1) side they shall have a uniform width of not less than three (3) feet six (6) inches in the clear.

(d) In such buildings there shall be not more than six (6) seats intervening between any one (1) seat and an aisle, nor more than thirteen (13) seats in any row between any two (2) aisles. Rows of



seats shall be not less than thirty (30) inches apart, measured from back to back. All seats shall be separated by arms and shall be at least eighteen (18) inches in width from center to center. Seats shall be securely fastened to the floor, and no swivel or revolving seats will be permitted.

(e) Such buildings shall comply with this act as to the construction and location of motion picture machine booths, motion picture screens and fire apparatus.

(f) In such building no balcony or gallery will be permitted.

(g) In such buildings there shall be no stairway or other openings leading from within the building to any basement or cellar.

(h) Such buildings which are located in buildings, other parts of which are used for other purposes, shall be separated from the rest of such building by unpierced fire walls. No business dealing in or handling any highly inflammable or combustible materials will be permitted.

(i) There shall be separate exits leading to the street from all parts of the building in which such buildings are located.

Section 332. (a) Buildings of class Ib prior erected of fire-resistive construction, accommodating, or designed or intended to accommodate, more than five hundred (500) persons, shall abut on a street in the front, and shall have on both sides of the auditorium a court extending from the street in the front to a street or public alley in the rear, if there be such. Where there is no street or public alley in the rear, such courts shall extend to at least five (5) feet beyond the rear wall of the building, and there shall be a court in the rear, at least five (5) feet in width, connecting the two (2) side courts. Where less than one thousand (1,000) persons are accommodated, or designed or intended to be accommodated, the side and rear courts shall be not less than five (5) feet wide. Where one thousand (1,000) or more persons are accommodated, or designed or intended to be accommodated, such courts shall be not less than seven (7) feet wide. Such courts shall be paved with concrete or other approved fire-resistive materials. Differences in level shall be overcome by inclines having a rise of not more than one (1) foot in ten (10) feet. All courts shall be unobstructed from the ground to the sky.

(b) Such buildings shall have at least three (3) exit openings at the street front, each having a width of at least five (5) feet in the clear. In addition, the aggregate width of such exit openings shall increase in the ratio of twenty (20) inches for each one hundred (100) persons or fractional part thereof accommodated or designed or intended to be accommodated more than five hundred (500). There shall be at least two (2) exit openings in the rear, each having a width of at least five (5) feet in the clear.

(c) Such buildings shall have at least two (2) exit openings on each side of the auditorium directly opposite each other, each having a width of at least five (5) feet in the clear; except that, such exit openings will not be required in that side of the auditorium not abutting upon a street or court in cases where such building is located on a corner lot or on a lot at the intersection of two (2) streets. Such exit openings shall be located at points equally distant from the line of the first and last row of seats. There shall be one (1) additional such door on each side for each five hundred (500) persons or fractional part thereof more than one thousand (1,000).

(d) Where a court is required on but one (1) side of such building, the number of exit openings in the wall on that side of the auditorium shall be equal to the number of exit openings required in the walls of the auditorium when there are courts on both sides.

(e) Such buildings shall have at least one (1) exit opening in the rear wall on each side of the motion picture screen; except that, where this is impracticable, such exit openings may be under the picture screen at equal distances from the side walls of the auditorium.

(f) In such buildings there shall be cross aisles leading to every exit; except that, where but one (1) side court is required, no more cross aisles will be required than when there are two (2) side courts. Where there are more than two (2) main aisles, cross aisles shall extend the full width of the auditorium; except that, where but one (1) side court is required, such cross aisle need extend only to the main aisle that is farthest from such court. Cross aisles shall have a uniform width of not less than four (4) feet in the clear.

(g) Where such buildings accommodate, or are designed or intended to accommodate, not more than one thousand (1,000) persons, and where there are no side courts, the aggregate exit space at both front and rear shall be increased at least fifty (50) per cent. more than is required for such aggregate exit space where there are side courts. In all such cases, however, the exit at the rear shall lead directly to a street or public alley at least ten (10) feet wide in the rear.

(h) Where such buildings accommodate, or are designed or intended to accommodate, more than one thousand (1,000) persons, and where there are no side courts, all main aisles shall lead directly to front and rear exits; except that, where the center aisle may lead into the picture screen in the rear. In all such cases, rear exits shall lead directly to a street or public alley at least ten (10) feet in width in the rear.

(i) Such buildings accommodating, or designed or intended to accommodate, more than five hundred (500) persons, and not more



than one thousand (1,000) persons, which are located on a lot abutting on a street in the front and a street in the rear, need have a court on but one (1) side, extending from the street in the front to the street in the rear. Such court shall be at least seven (7) feet wide.

(j) Where any such building is located on a corner lot, or at the intersection of two (2) streets, a court will be required opposite only one (1) of such streets; provided, however, that such building shall have a frontage on such street throughout its entire length or width, as the case may be, and that all exits shall be at the sidewalk level or grade, and that no run shall have a rise of more than one (1) foot in ten (10) feet. Otherwise a court will be required on the street side where exits are not at the sidewalk level or grade.

(k) Such building shall have at least two (2) main aisles at least one (1) of which shall lead directly to an exit opening at the street front. Main aisles having seats on both sides shall have a uniform width of not less than four (4) feet in the clear, and where there are seats on only one (1) side, they shall have a uniform width of not less than three (3) feet six (6) inches in the clear.

(l) In such buildings there shall be not more than six (6) seats intervening between any one (1) seat and an aisle, nor more than thirteen (13) seats in any row between any two (2) aisles. Rows of seats shall be not less than thirty (30) inches apart, measured from back to back. All seats shall be separated by arms, and shall be at least eighteen (18) inches in width from center to center. Seats shall be securely fastened to the floor and no swivel or revolving seats will be permitted.

(m) Such buildings shall comply with this act as to the construction and location of motion picture booths, motion picture screens and fire apparatus.

(n) In such building no balcony or gallery will be permitted.

(o) In such building there shall be no stairway or other openings leading from within the building to any basement or cellar.

(p) Such buildings which are located in buildings, other parts of which are used for other purposes, shall be separated from the rest of such buildings by unpierced fire walls. No business dealing in or handling any highly inflammable or combustible materials will be permitted.

(q) There shall be separate exits leading to the street from all parts of the building in which such buildings are located.

Section 333. In buildings of class Ib prior erected, risers will not be permitted in aisles, corridors, or passageways. All differences of level shall be overcome by inclines.

Section 334. (a) In buildings of class Ib prior erected, stairways will be permitted leading only to office room, smoking room, check room or retiring room. In such cases, however, there shall be at least two (2) means of exit from such room, one (1) of which shall lead directly to an outer exit of the building.

(b) In such buildings, stairways will not be permitted leading to a basement or cellar within the building.

(c) In such buildings all stairs shall have risers not more than eight (8) inches in height, and treads not less than nine (9) inches in width.

(d) In such buildings all stairways shall be at least four (4) feet in width in the clear.

(e) In such buildings, if stairways are not constructed of approved fire-resistive materials, the underside of the stairs shall be protected with an approved fire and water resistive plaster of approved thickness, laid on metal lath.

(f) In such buildings where walls of stairways are not constructed of approved fire-resistive materials, they shall be protected by an approved fire and water resistive plaster of approved thickness, laid on metal lath. Where such walls are interior walls, both sides shall be so protected.

(g) Circular stairways or winders are prohibited.

Section 335. In buildings of class Ib prior erected, the level of the front entrance at the sidewalk shall be not higher than eight (8) inches above the level of the sidewalk.

Section 336. (a) In buildings of class Ib prior erected, accommodating, or designed or intended to accommodate, not more than five hundred (500) persons, the front or that side having the principal entrance shall be as wide as the widest part of the auditorium.

(b) Such buildings of fire-resistive construction, accommodating, or designed or intended to accommodate, more than five hundred (500) persons, and abutting on a street in the front and on a street at least twenty (20) feet wide in the rear, or a public alley at least twenty (20) feet wide in the rear, and having courts as required by this act, will not be required to have the front or that side having the principal entrance to be as wide as the widest part of the auditorium; provided that, a free, unobstructed space shall be preserved as the principal entrance corridor between the foyer wall and the street, such space to be centrally located between the sides of the building, and to be of a width of not less than twenty-five (25) per cent. more than the space required herein for exit openings at the front; and provided further that, the depth of that part of the building in front of the foyer wall, which is used for other purposes, shall be not more than twenty-five (25) feet measured from the



street front. In all such cases where such building abuts on a street at least twenty (20) feet wide in the rear, a court will be required on but one (1) side; provided that, such court is at least seven (7) feet wide and that it extends from street to street. When such building abuts on a public alley in the rear, it shall have courts on both sides as herein required.

**Section 337.** (a) In buildings of class Ib prior erected, all exit openings shall have a height of at least seven (7) feet in the clear except that, when under the picture screen they need be but six (6) feet six (6) inches in height in the clear.

(b) Exits may be used for entrances; provided that, the provisions of this section are complied with.

(c) There shall be exit openings in the foyer wall, and in a partition between the foyer wall and the front of the building, to correspond in number and size with the exit openings herein required at the street front and directly opposite such exit openings. There shall be no obstruction of any kind whatever in the line of passage between such exit openings.

(d) The sills of exit openings shall be flush with the approach on either side.

**Section 338.** (a) In buildings of class Ib prior erected, the unoccupied space within the auditorium exclusive of aisles and the space between the seating room, shall be sufficient to contain the whole number of persons accommodated, or designed or intended to be accommodated, seated, on the ratio of one and one-half (1½) square feet of floor space for each person, provided that, the unoccupied space between the rows of seats shall not be counted for the purpose of determining the total unoccupied space.

(b) The space between the back row of seats and the foyer wall - and between the rows of seats reserved for standing room and the foyer wall - shall be unobstructed and shall be at least five (5) feet in width, and shall extend across the full width of the auditorium.

**Section 339.** (a) Buildings of class Ib prior erected, accommodating or designed or intended to accommodate more than two hundred and fifty (250) persons, shall have at least two (2) main aisles.

(b) A main aisle having seats on both sides shall have a uniform width of not less than four (4) feet in the clear. Where it has seats on only one (1) side, it shall have a uniform width of not less than three (3) feet six (6) inches in the clear.

**Section 340.** (a) In buildings of class Ib prior erected, mirrors are prohibited; except that, one (1) mirror not more than two (2)

feet by four (4) feet in size will be permitted in the entrance corridor; provided that the lower side of such mirror shall not be nearer than four (4) feet to the floor.

(b) In such buildings no architectural feature shall be so arranged as to give the appearance of a doorway, window, corridor, or passageway where none exists.

(c) In such buildings no doorway other than exits herein provided will be permitted from the auditorium or principal entrance corridor.

Section 341. In buildings of class Ib prior erected, the floor level of the highest row of seats shall be not more than five (5) feet above the sidewalk level, and the floor level of the lowest row of seats shall be not more than six (6) feet below the sidewalk level. Both such levels shall be measured from the same sidewalk level.

Section 342. (a) In buildings of class Ib prior erected, of fire-resistive construction, where a stage already exists, it will be permitted to remain; provided that, the stage is built of approved fire-resistive materials; that there is no movable scenery; and that the permanent scenery is constructed of approved fire-resistive materials.

(b) In such buildings of other than fire-resistive construction, a stage will not be permitted, but a platform will be permitted in lieu of a stage, of not more than eight (8) feet in depth; provided that, no movable scenery is employed, and that a free, unoccupied space of at least four (4) feet is preserved between the front of the platform and the first row of seats. Such platform shall be constructed entirely of approved fire-resistive materials, except that the floor covering or flooring may be of wood not less than seven-eighths ( $\frac{7}{8}$ ) inch thick.

Section 343. In buildings of class Ib prior erected, the picture screen shall be made of approved fire-resistive materials, or of materials treated with an approved fire-resistive solution that does not destroy the effectiveness of the picture screen, and approved by the Local or State Fire Marshal. Such picture screen shall be placed against the rear wall. Mirror screens will be permitted.

Section 344. (a) In buildings of class Ib prior erected, all fuses and switches shall be enclosed in a box or boxes. Such box or boxes shall be surrounded by two (2) thicknesses of approved fire-resistive materials with an air space between them.

(b) All electrical equipment shall be installed and maintained subject to the approval of the State Building Commissioner or Chief Building Inspector.

(c) All electrical wiring shall be carried in conduits which are properly grounded.



Section 345. (a) In buildings of class Ib prior erected, over every exit from the auditorium there shall be placed on illuminated sign with the word "Exit" thereon in letters of approved color, at least eight (8) inches high.

(b) Means of egress shall have signs indicating the way out to the public thoroughfare.

Section 346. (a) Every portion of building of class Ib prior erected, including exits, aisles, courts, corridors, and passageways devoted to the use or accommodation of the public, shall be so lighted by electric light during all exhibitions, and until the entire audience has left the premises, that a person with normal eyesight shall be able to read Snellen Standard Test Type forty (40) at a distance of twenty (20) feet, and type thirty (30) at a distance of ten (10) feet; normal eyesight meaning ability to read type twenty (20) at a distance of twenty (20) feet in daylight. Cards showing types twenty (20), thirty (30), and forty (40) shall be displayed in the principal entrance corridor or hallway, together with a copy of this section.

(b) Means of egress outside the auditorium shall be adequately lighted at all times while the building is occupied by the public.

Section 347. (a) In buildings of class Ib prior erected, no light other than approved electric shall be used in any part of the building.

(b) All exit lights and exit signs and all lights in outside courts and in lobbies, stairways, corridors, and passageways and other portions of such buildings to which the public may have access, shall be attached to the main circuit, and, in addition, there shall be a separate circuit connected to an approved storage battery or dry battery system, provided with a suitable automatic cut-in switch and charging device. Such batteries shall be capable of sustaining all exit lights for at least one (1) hour after the main circuit is discontinued.

(c) All emergency lights shall be controlled only by a special service switch connected directly with the source of supply, and shall be under lock and key and accessible only to authorized persons.

(d) All lights in corridors, passageways, stairways and wherever else deemed necessary by the State Building Commissioner or Chief Building Inspector, shall be guarded with approved wire network.

(e) Lights other than required lights used for lighting the auditorium, shall be controlled from at least two places, one of which shall be in the office, and one of which shall be in the motion picture machine booth.

Section 348. (a) In buildings of class Ib prior erected, there shall be a permanent motion picture machine booth, constructed as

required by laws enacted prior to the passage of this act. Such booth, when suspended from a wall or ceiling, shall have a platform and be accessible by a permanent stairway or ladder.

(b) Portable motion picture machine booths will not be permitted in such buildings.

(c) No combustible materials, other than films in metal containers, shall be kept in the motion picture machine booth.

Section 349. (a) In buildings of class Ib prior erected, there shall be at least two (2) approved, two and one-half ( $2\frac{1}{2}$ ) gallon chemical hand fire extinguishers located in the auditorium, and, in addition, one (1) fire extinguisher of approved type attached to the motion picture machine booth.

(b) All fire apparatus shall be under the control of the Local or State Fire Marshal.

Section 350. (a) In buildings of class Ib prior erected, the location and position of all hand fire apparatus required herein shall be determined by the Local or State Fire Marshal, and shall not be removed from that position except when actually in use or for purposes of instruction and inspection. When through, such apparatus shall be replaced in good working order. All hand fire extinguishers shall be fastened in position by a fine cord that may be easily broken, and such cord shall be sealed with a tag showing the date of sealing. All chemical hand fire extinguishers shall be examined at least once in every six (6) months, and they shall be refilled when necessary, but in any case they shall be refilled at least once in every twelve (12) months.

(b) Attached to the nozzle of all chemical hand fire extinguishers shall be a long needle of steel wire suitable for cleaning out the opening of the nozzle in case it should become clogged up.

Section 351. All employees engaged in or about buildings of class Ib prior erected shall be required to know how to operate all fire apparatus in the building, and it shall be the duty of the person engaging such employees or operating such building to see that all employees are properly and thoroughly instructed.

Section 352. (a) In buildings of class Ib prior erected, only steam or hot water heating systems will be permitted. Hot air furnaces are prohibited.

(b) The heater room, fuel room and firing room in such building shall be contained in a room or rooms, the floor, walls and ceiling of which are constructed of approved fire-resistive materials. Openings will be permitted, provided there is no opening directly into the auditorium; and provided further that, such openings are covered with approved self-closing hinged fire doors.



(c) No such room shall be located under any main aisle, cross aisle, seating space or under the standing space permitted by this act, or under any exit or approaches thereto.

(d) No cast iron boiler operated at more than ten (10) pounds pressure, or steel boiler operated at more than thirty-five (35) pounds pressure, shall be located within the main walls of the building.

(e) All piping leading from the heater room to the risers shall be covered with an approved pipe covering at least one (1) inch in thickness, and pipe openings shall be completely filled in around the piping with approved fire-resistive materials.

(f) No coil or radiator shall be placed in any aisle, exit or passageway, unless such coil or radiator shall be placed in recesses above the floor level.

(g) All supply, return or exhaust pipes shall be encased with approved fire-resistive materials at least one (1) inch in thickness where passing through floors.

Section 353. The provisions of this act relating to buildings of class Ib prior erected, shall become operative immediately upon their approval except that the State Building Commissioner or Chief Building Inspector may in his discretion allow a period of not to exceed six (6) months within which to bring any such building into conformity with this act.

#### Special Requirements for Buildings of Class Ic Hereafter Erected.— Assembly Halls.

Section 354. In class I shall be included all buildings in which people congregate for amusement, entertainment, social intercourse or worship.

(a) Theaters.

(b) Motion picture theaters.

(c) Assembly halls.

(d) Grandstands, summer theaters, observation towers, exhibition and fair buildings, amusement parks and roof gardens.

Section 355. (a) The following special requirements for buildings of class Ic hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 356. Buildings of class Ic hereafter erected shall be so designed and constructed that the floors shall safely sustain, in addition to the weight of the floor construction, partitions, permanent fixtures and mechanisms that may be set upon them, a live load of one hundred (100) pounds on every square foot of surface;

and the stairways and fire escapes a live load of not less than one hundred and fifty (150) pounds on every square foot of treads and landings. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 357. All means of egress from any building of class Ic hereafter erected shall be by doors which shall open outward. Such doors shall be of approved design and construction, and shall be provided with a lock which when the door is unlocked can be fastened in such a manner that the door cannot become locked accidentally, or by any person except an authorized person.

Section 358. No door used as a means of egress from any building of class Ic hereafter erected shall be locked or fastened during the entire time that the building is open to the public. No obstruction of any kind shall be placed in any aisle, corridor, hallway, passageway or exit.

Section 359. (a) Buildings of class Ic hereafter erected shall be ventilated by an approved mechanical system, except as herein otherwise provided, which will supply not less than one thousand five hundred (1,500) cubic feet of fresh air per hour to each person designed to be accommodated.

(b) Where the capacity is three hundred (300) or less, and where the capacity is greater than three hundred (300) during seasons when artificial heat is not needed, ventilation may be effected by windows; but the aggregate area of the windows when open, measured from the top to a line seven (7) feet above the floor, shall be not less than one-quarter ( $\frac{1}{4}$ ) of a square foot for each person for whom accommodation is provided.

(c) The number, size and location of the air inlets and discharging ducts shall be such as to distribute the incoming air and remove the vitiated air evenly without exposing any person to direct draft.

(d) The fresh air supply shall be taken from outside the building, and no vitiated air, or air from basements, cellars, or other rooms shall be used for ventilating purposes, and such air shall be filtered when so ordered by the Local Board of Health or State Department of Health.

(e) Such buildings shall be thoroughly ventilated immediately before and immediately after each occupation, and the ventilating system shall be kept in constant operation during the occupation.

(f) Blowers used to distribute air through ventilating pipes, ducts or flues shall be electrically operated, and shall be provided with fusible links to stop the blowers automatically in case of fire. Such fusible links shall be connected with an automatic cutout at



the motor, and shall be located subject to the approval of the Local or State Fire Marshal.

(g) Dampers shall be provided at the intake of all ventilating pipes, ducts or flues, and shall be held open by a combustible cord.

(h) Exhausted or vitiated air shall be carried to a point at least two (2) feet above the roof.

Section 360. Buildings of class Ic hereafter erected of frame construction or other construction, shall be unrestricted as to their capacity; provided that, they are not more than one (1) story in height; that they are thirty (30) feet distant from any other buildings; that the aggregate width of their exits shall be in the proportion of thirty (30) inches for every one hundred (100) persons whom the building is designed to accommodate; and that there shall be at least two (2) exits not less than three (3) feet wide on each side of the building leading directly to the outer air; and provided further that no balcony or gallery will be permitted.

(b) Any such building designed to accommodate not to exceed one thousand (1,000) persons may be located in any building of ordinary construction or mill construction, provided that the highest point of the floor shall be not more than ten (10) feet above the sidewalk; that there shall be no balcony or gallery; that there shall be courts as required by this act for buildings of class Ia hereafter erected; that there shall be at least two (2) exits on each side other than the proscenium or foyer sides leading thereto; and that the aggregate width of exits shall be in the proportion of at least twenty (20) inches for every one hundred (100) persons. Where possible at least one exit shall lead to an alley or street in the rear.

(c) Any such building designed to accommodate not to exceed five hundred (500) persons may be located in the second story of any building of ordinary construction or mill construction; provided that, there is no balcony or gallery; and provided further that, there are at least two (2) stairways at the front and one (1) at the rear, and that no hazardous business or business handling or dealing in materials of an easily inflammable nature is located in the building.

(d) Any such building designed to accommodate not to exceed two hundred and fifty (250) persons may be located in the third story of a building of ordinary construction or mill construction; provided that there is no balcony or gallery and that there is immediate and direct access through a common hall to two (2) separate means of egress to the street, one of which shall be a separate and independent stairway leading directly to the street, entirely enclosed by walls of approved fire-resistive materials without other openings other than the opening from the hall and the opening at

the street level. In addition there shall be one means of egress at the rear of the building.

(e) There shall be no restriction upon the capacity of any such building located in any building of fire-resistive construction, provided that where the hall is designed for the accommodation of more than one thousand (1,000) persons the highest point of the main floor shall not be located more than ten (10) feet above the sidewalk level. Where such building is designed to accommodate more than one thousand (1,000) persons there shall be courts and exits leading thereto, as required in this act for buildings of class Ia hereafter erected.

(f) Any such building seating not to exceed one thousand (1,000) persons may be located in any floor of a building of fire-resistive construction, provided that where located in any story above the fourth story there shall be a tower fire escape and an elevator equipment as is herein required for roof gardens. Such tower fire escape and elevator may be in the same enclosure, provided that they are separated by a fire wall. There shall be a direct exit giving immediate access to such tower fire escape and elevator.

(g) Every such building shall have at least two (2) separate means of egress to a public thoroughfare; but, except as herein otherwise required, these shall not be construed to be exclusive of the ordinary or usual means of egress from the building.

Section 361. In computing the seating capacity of any building of class Ic hereafter erected, in which the seats are not fixed, an allowance of six (6) square feet of floor area shall be made for each person.

Section 362. Where balconies are permitted in buildings of class Ic hereafter erected there shall be at least two (2) stairways therefrom located on opposite sides.

Section 363. (a) All exits, doors, corridors, hallways and passageways of buildings of class Ic hereafter erected shall be kept free and clear of obstruction, and shall be not less than four (4) feet in width in the clear.

(b) Stairways in such buildings shall be constructed as herein required for stairways in buildings of class Ia hereafter erected; and all stairways in buildings in which there are such assembly halls, which are used or counted as a means of egress from such assembly halls, shall conform to these requirements.

Section 364. (a) In buildings of class Ic hereafter erected having permanent or fixed seats, aisles shall have in the aggregate a width of not less than eighteen (18) inches for each one hundred (100) of seating capacity; and for fractional parts of one hundred



(100) a proportionate part of eighteen (18) inches shall be added. When the seating capacity is more than three hundred and fifty (350), fifteen (15) inches shall be added for each additional one hundred (100) seating capacity, and for fractional parts of one hundred (100) thereafter a proportionate part of fifteen (15) inches shall be added. But no aisle shall have a width of less than two (2) feet six (6) inches.

(b) Steps will be permitted in aisles and shall have risers not more than eight (8) inches in height, and treads not less than nine (9) inches in width. Whenever the rise from row to row of seats is less than eight (8) inches the floor of the aisle shall be made as an inclined plane.

(c) All aisles and passageways shall be kept free from portable furniture and other obstructions, and no person shall be allowed to stand in or occupy any aisle or passageway while such assembly hall is occupied by the public.

(d) Where there are emergency exits located at the sides there shall be a cross aisle giving access to such exits. The location of emergency exits and cross aisles shall be subject to the approval of the State Building Commissioner or Chief Building Inspector.

(e) There shall be not more than fourteen (14) seats in any one (1) row between aisles. Where the seating capacity is greater than four hundred (400) there shall be an aisle on each side of every row of seats in which there are over seven (7) seats. Rows of seats shall be not less than thirty-two (32) inches from back to back, and no row of seats shall have a greater rise than sixteen (16) inches.

Section 365. (a) Buildings of class Ic hereafter erected, located above the first floor of any building shall have immediate and direct access to the main stairway of the building.

(b) In addition thereto there shall be immediate and direct access to a fire escape.

(c) All halls or passageways leading to stairways or fire escapes shall be free and clear of obstructions, and there shall be signs with letters at least three (3) inches high with the words, "This way to stairway," and "This way to fire escape" together with an index finger, posted in a conspicuous place in the hall leading to such stairway or fire escape.

Section 366. Over every exit from buildings of class Ic hereafter erected shall appear the word "Exit" in letters at least six (6) inches high, and also either a red illuminated sign or a red light which shall be kept lighted at night.

Section 367. In buildings of class Ic hereafter erected all lights at exits and in passageways and halls leading to exits shall be on a separate circuit or system from the lights lighting the main hall.

All lighting shall be by gas or electricity; except that, in such buildings having a seating capacity of less than five hundred (500) lighting may be accomplished by an approved means. No lamps or lighting devices containing fluid oil will be permitted in an assembly hall or in any part of any building in which an assembly hall is located.

Section 368. (a) In buildings of class Ic hereafter erected there shall be at least one (1) standpipe and hose attached, constructed as required by this act.

(b) There shall be at least one (1) approved two and one-half (2½) gallon chemical hand fire extinguisher for every three hundred (300) people whom the assembly hall is designed to accommodate; provided that, there shall be at least two (2) in every assembly hall that shall be located subject to the approval of the Local or State Fire Marshal.

(c) All fire apparatus shall be under the control of the Local or State Fire Marshal.

Section 369. Permits issued for buildings of class Ic hereafter erected shall state the number of people that can be accommodated. Such permits shall be conspicuously posted and kept at the entrance of such buildings, and no more than the number specified in the permit shall be allowed to occupy the building.

#### Special Requirements for Buildings of Class Ic Prior Erected.— Assembly Halls.

Section 370. In class I shall be included all buildings in which people congregate for amusement, entertainment, social intercourse or worship.

(a) Theaters.

(b) Motion picture theaters.

(c) Assembly halls.

(d) Grandstands, summer theaters, observation towers, exhibition and fair buildings, amusement parks and roof gardens.

Section 371. (a) The following special requirements for buildings of class Ic prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 372. Buildings of class Ic prior erected shall be so designed and constructed that the floors shall safely sustain, in addition to the weight of the floor construction, partitions, permanent fixtures and mechanisms that may be set upon them, a live load of one hundred (100) pounds on every square foot of surface; and the



stairways and fire escapes a live load of not less than one hundred and fifty (150) pounds on every square foot of treads and landings. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 373. All means of egress from any building of class Ic prior erected shall be by doors which shall open outward. Such doors shall be of approved design and construction, and shall be provided with a lock which when the door is unlocked can be fastened in such a manner that the door cannot become locked accidentally, or by any person except an authorized person.

Section 374. No doors used as a means of egress from any building of class Ic prior erected shall be locked or fastened during the entire time that the building is open to the public. No obstruction of any kind shall be placed in any aisle, corridor, hallway passageway or exit.

Section 375. (a) Buildings of class Ic prior erected shall be ventilated by an approved mechanical system, except as herein otherwise provided, which will supply not less than one thousand five hundred (1,500) cubic feet of fresh air per hour to each person designed to be accommodated.

(b) Where the capacity is three hundred (300) or less, and where the capacity is greater than three hundred (300) during seasons when artificial heat is not needed, ventilation may be effected by windows; but the aggregate area of the windows when open, measured from the top to a line seven (7) feet above the floor, shall be not less than one-quarter ( $\frac{1}{4}$ ) of a square foot for each person for whom accommodation is provided.

(c) The number, size and location of the air inlets and discharging ducts shall be such as to distribute the incoming air and remove the vitiated air evenly without exposing any person to direct draft.

(d) The fresh air supply shall be taken from outside the building, and no vitiated air, or air from basements, cellars, or other rooms shall be used for ventilating purposes, and such air shall be filtered when so ordered by the Local Board of Health or State Department of Health.

(e) Such buildings shall be thoroughly ventilated immediately before and immediately after each occupation, and the ventilating system shall be kept in constant operation during the occupation.

(f) Blowers used to distribute air through ventilating pipes, ducts or flues shall be electrically operated, and shall be provided with fusible links to stop the blowers automatically in case of fire. Such fusible links shall be connected with an automatic cutout at the motor, and shall be located subject to the approval of the Local or State Fire Marshal.

(g) Dampers shall be provided at the intake of all ventilating pipes, ducts or flues, and shall be held open by a combustible cord.

(h) Exhausted or vitiated air shall be carried to a point at least two (2) feet above the roof.

Section 376. In computing the seating capacity of any building of class Ic prior erected, in which the seats are not fixed, an allowance of six (6) square feet of floor area shall be made for each person.

Section 377. Where balconies are permitted in buildings of class Ic prior erected there shall be at least two (2) stairways therefrom located on opposite sides.

Section 378. (a) All exits, doors, corridors, hallways and passageways of buildings of class Ic prior erected, shall be kept free and clear of obstruction, and shall be not less than four (4) feet in width in the clear.

(b) Stairways in such buildings shall be constructed as herein required for stairways in buildings of class Ia prior erected; and all stairways in buildings in which there are such assembly halls, which are used or counted as a means of egress from such assembly halls, shall conform to these requirements.

Section 379. (a) In buildings of class Ic prior erected having permanent or fixed seats, aisles shall have in the aggregate a width of not less than eighteen (18) inches for each one hundred (100) of seating capacity; and for fractional parts of one hundred (100) a proportionate part of eighteen (18) inches shall be added. When the seating capacity is more than three hundred and fifty (350), fifteen (15) inches shall be added for each additional one hundred (100) seating capacity, and for fractional parts of one hundred (100) thereafter a proportionate part of fifteen (15) inches shall be added. But no aisles shall have a width of less than two (2) feet six (6) inches.

(b) Steps will be permitted in aisles and shall have risers not more than eight (8) inches in height, and treads not less than nine (9) inches in width. Whenever the rise from row to row of seats is less than eight (8) inches the floor of the aisle shall be made as an inclined plane.

(c) All aisles and passageways shall be kept free from portable furniture and other obstructions, and no person shall be allowed to stand in or occupy any aisle or passageway while such assembly hall is occupied by the public.

(d) Where there are emergency exits located at the sides there shall be a cross aisle giving access to such exits. The location of emergency exits and cross aisles shall be subject to the approval of the State Building Commissioner or Chief Building Inspector.



(e) There shall be not more than fourteen (14) seats in any one (1) row between aisles. Where the seating capacity is greater than four hundred (400) there shall be an aisle on each side of every row of seats in which there are over seven (7) seats. Rows of seats shall be not less than thirty-two (32) inches from back to back, and no row of seats shall have a greater rise than sixteen (16) inches.

Section 380. (a) Buildings of class Ic prior erected, located above the first floor of any building shall have immediate and direct access to the main stairway of the building.

(b) In addition thereto there shall be immediate and direct access to a fire escape.

(c) All halls or passageways leading to stairways or fire escapes shall be free and clear of obstructions, and there shall be signs with letters at least three (3) inches high with the words, "This way to stairway," and "This way to fire escape" together with an index finger, posted in a conspicuous place in the hall leading to such stairway or fire escape.

Section 380½. Over every exit from buildings of class Ic prior erected shall appear the word "Exit" in letters at least six (6) inches high, and also either a red illuminated sign or a red light which shall be kept lighted at night.

Section 381. In building of class Ic prior erected all lights at exits and in passageways and halls leading to exits shall be on a separate circuit or system from the lights lighting the main hall. All lighting shall be by gas or electricity; except that, in such buildings having a seating capacity of less than five hundred (500) lighting may be accomplished by an approved means. No lamps or lighting devices containing fluid oil will be permitted in an assembly hall or in any part of any building in which an assembly hall is located.

Section 382. (a) In buildings of class Ic prior erected there shall be at least one (1) standpipe and hose attached constructed as required by this act.

(b) There shall be at least one (1) approved two and one-half (2½) gallon chemical hand fire extinguisher for every three hundred (300) people whom the assembly hall is designed to accommodate; provided that, there shall be at least two (2) in every assembly hall that shall be located subject to the approval of the Local or State Fire Marshal.

(c) All fire apparatus shall be under the control of the Local or State Fire Marshal.

Section 383. Permits issued for buildings of class 1c prior erected shall state the number of people that can be accommodated. Such permits shall be conspicuously posted and kept at the entrance of such buildings and no more than the number specified in the permit shall be allowed to occupy the building.

Special Requirements for Buildings of Class Id Hereafter erected.—  
Grandstands, Etc.

Section 384. In class I shall be included buildings in which people congregate for amusement, entertainment, social intercourse or worship.

(a) Theaters.

(b) Motion picture theaters.

(c) Assembly halls.

(d) Grandstands, summer theaters, observation towers, exhibition and fair buildings, amusement parks and roof gardens.

Section 385. (a) The following special requirements for buildings of class Id hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 386. Buildings of class Id hereafter erected shall be so designed and constructed as to safely sustain, in addition to the weight of the construction, partitions and permanent fixtures a live load of one hundred (100) pounds on every square foot of surface. Stairways and fire escapes shall safely sustain a live load of one hundred and fifty (150) pounds on every square foot of treads and landings. Roofs of such buildings shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 387. All means of egress from buildings of class Id hereafter erected shall be by doors, which shall open outward. Such doors shall be of approved design and construction, and may be provided with a lock of such a type which when the door is unlocked can be fastened in such a manner that the door cannot become locked accidentally, or by any person except an authorized person. No spring locks or dead latches will be permitted.

Section 388. No door used as a means of egress from buildings of class Id hereafter erected shall be locked or fastened during the entire time that the building is open to the public. No obstruction of any kind shall be placed in any aisle, corridor, hallway, passageway or exit.



## Grandstands.

Section 389. (a) Wooden grandstands or tiers of seats commonly known and described as grandstands hereafter erected will be permitted where no part of it is within sixty (60) feet of any other building or structure. The braces, supports, and the under side of all seats, including bleacher seats, shall be treated with a fire retarding solution once a year before opening up the premises to the public.

(b) There shall be a self-supporting partition built of approved fire-resistive materials, extending the width of the grandstand and from the ground up to the under side of the seats, placed at every hundred (100) feet of length of such grandstand unless the total length does not exceed one hundred and fifty (150) feet.

(c) No structure of any kind will be permitted under such wooden grandstands and no material or merchandise of any description will be permitted thereunder; except under the following conditions; the entire space, except the front, shall be enclosed by walls built of approved fire-resistive materials; the opening at the front shall not be nearer any exit or nearer any stairway, or passageway leading directly to an exit, than sixteen (16) feet; above the opening shall be a wall of approved fire-resistive materials extending to a height of at least eight (8) feet above the topmost row of seats; space under any stairway shall not be used for any purpose, and if the adjoining space is used it shall be separated from the space under the stairway by a solid wall built of approved fire-resistive materials.

(d) Grandstands hereafter erected, except as hereinafter provided, shall be built of approved fire-resistive materials; but the seats may be of wood.

(e) Such grandstands outside of the fire limits in cities having fire limits, if permitted by local ordinance, may be constructed of wood, but no part of any such structure shall be within sixty (60) feet of any other building or structure.

(f) Every person, firm or corporation, desiring a permit for the construction of a grandstand, shall first obtain the consent in writing of the owners of a majority of the frontage on both sides of the street or streets on each side of the block or square in which it is desired to erect such grandstand. Such written consent shall be presented and filed with the plans before a permit shall be issued therefor.

Section 390. (a) The width of aisles and exits in grandstands hereafter erected shall be computed at the rate of twelve (12) inches per one hundred (100) seats or fractional part thereof in grandstands built of approved fire-resistive materials, and at the rate of eighteen (18) inches for each one hundred (100) seats or fractional

part thereof in other grandstands; but no aisle or exit shall be less than three (3) feet in width.

(b) The number of seats between aisles in any row shall not exceed thirty (30) in such grandstands built of approved fire-resistive materials, nor twenty (20) in other grandstands.

(c) The distance between exits shall not exceed fifty (50) feet.

(d) No exit, gate or door of such grandstands shall be locked or bolted during its occupancy by the public. All aisles, passageways, corridors and exits shall be kept free from obstruction of every kind and no person other than necessary attendants will be permitted to stand in any aisle, corridor, passageway or exit while such grandstand is occupied by the public.

Section 391. (a) Temporary observation stands or seating structures hereafter erected built of combustible material will be permitted, provided that, they are structurally strong enough to safely sustain a live load of one hundred (100) pounds per square foot, stairways shall safely sustain a live load of one hundred and fifty (150) pounds on every square foot of treads and landings.

(b) They shall not extend nearer than ten (10) feet to any other building or structure.

(c) No such stand or structure shall be more than five (5) rows of seats or over sixteen (16) feet in depth without a cross aisle at least three (3) feet in width; nor shall it exceed thirty-two (32) feet in length, or approach nearer than ten (10) feet to any adjoining building or structure. The lowest seat of such stand shall not be more than four (4) feet above the sidewalk level.

(d) No permit shall be issued for such a stand or structure until the written consent shall be secured of a majority of the property owners or their duly authorized agents on both sides of the street between the two (2) nearest intersecting streets on which such temporary stand or structure is to be located.

(e) Such stand or structure may only be used for ten (10) consecutive days from the first day it is used, and shall be removed after the expiration of the ten (10) days.

#### Summer Theaters.

Section 392. (a) Summer theaters hereafter erected seating not more than one thousand (1,000) persons may be of frame construction, provided that;

(b) All parts below the first floor line shall be of fire-resistive construction. No balcony or gallery will be permitted. Such summer theaters shall be not more than one (1) story high; shall be not nearer than thirty (30) feet to any other building or structure; and



no part of the building shall be used for any other purpose while open to the public.

(c) Except as otherwise herein provided scenery will be permitted; provided that, the walls enclosing the stage, including the proscenium walls, shall be of fire-resistive construction and not less than twelve (12) inches thick. The openings between the auditorium and the stage shall be equipped with a steel curtain and fire doors as required for buildings of class Ia hereafter erected. The stage construction and everything appurtenant thereto shall conform to the requirements for buildings of class Ia hereafter erected.

(d) Such summer theaters having no roof over the auditorium and with at least double the means of egress from the auditorium and the stage that is required for theaters may have a stage and scenery constructed of other than approved fire-resistive materials. The requirements for the proscenium wall with its steel curtain and fire doors shall in no case, however, be changed.

(e) There shall be no basement or cellar under any part of the building which is of frame construction.

(f) The sides of the auditorium shall be unenclosed, except that they may be enclosed if double the means of egress herein required for buildings of class Ia hereafter erected are provided which open directly into the adjoining courts or open space.

(g) The highest point of the main floor of the auditorium shall be not more than three (3) feet above the level of the ground. Steps will be permitted at the entrances.

(h) If the sides of the auditorium are unenclosed, exit signs or lights need not be used; otherwise there shall be exit signs and lights as is herein required for buildings of class Ia hereafter erected.

(i) No mechanical heat or heating system will be permitted.

(j) Where the seating capacity is greater than one thousand (1,000) the building shall be considered a theater and shall be subject to the requirements for buildings of class Ia hereafter erected.

#### Observation Towers.

Section 393. (a) Observation towers will be permitted on buildings of fire-resistive construction, provided that not more than one hundred and fifty (150) people shall be permitted on it at one time.

(b) Such towers shall be supported either directly from the walls of the building continued up through the roof, or shall be supported on a steel frame in such a manner that their weight will be transmitted directly to the walls of the building.

(c) Such towers shall be capable of sustaining a live load of one hundred (100) pounds per square foot of horizontal surface.

(d) Circular, winding stairways will not be permitted, and no stairway shall ascend to a greater distance than thirteen (13) feet four (4) inches without a level landing. Risers shall be not more than eight (8) inches in height and treads not less than nine (9) inches in width. Stairways shall be at least four (4) feet wide and shall be provided with hand rails on each side three (3) feet high.

(e) The observation floor of the tower shall be guarded either by walls or railings at least three (3) feet six (6) inches high. Where railings are used, the stanchions and all rails shall be of steel pipe of double thickness and at least two and one-half ( $2\frac{1}{2}$ ) inches in diameter or of approved metal structural shapes. Stanchions shall be placed not more than six (6) feet apart, and the space between rails shall be protected with expanded metal or heavy wire netting with a mesh of not greater than two and one-half ( $2\frac{1}{2}$ ) inches, or other approved design.

(f) Observation towers may rise to a height of not more than fifty (50) feet over the maximum height of the building.

(g) Observation towers shall be designed to resist a horizontal wind pressure of twenty (20) pounds for each square foot of vertical surface exposed from the top to the bottom of same in any direction.

#### Exhibition and Fair Buildings.

Section 394. (a) Exhibition and fair buildings may be of frame construction; provided that, they shall be not more than one (1) story high, and shall be not less than thirty (30) feet from any other building or structure.

(b) Exits not less than six feet in width opening outward shall be provided on each side in the proportion of one (1) exit for every fifty (50) feet of length or width.

(c) If of fire-resistive construction such buildings may be not more than two (2) stories in height any may be located within ten (10) feet of any other building or structure.

Section 395. (a) Temporary seats, boxes, show-cases, platforms and booths may be constructed of combustible materials; provided that, they shall not extend in a continuous line more than fifty (50) feet without a passageway at least three (3) feet in width.

(b) Not more than one (1) balcony will be permitted; provided that, there are at least two (2) stairways leading to the ground or to the main floor and at least one (1) such stairway for every fifty (50) feet of length or width.

Section 396. (a) Temporary frame buildings may be used as exhibition and fair buildings; provided that, they are not over one (1) story in height, and are not within thirty (30) feet of any other building or structure; provided, further, nevertheless, that where



they are located on a street thirty (30) feet in width, there shall be an open space of thirty (30) feet for every two hundred (200) feet of street frontage.

(b) Such buildings shall not be permitted to stand for a longer period than one (1) year unless with the approval of the State Building Commissioner or Chief Building Inspector.

(c) One (1) balcony will be permitted; provided that, there are at least two (2) stairways leading to the ground or to the main floor and at least one (1) such stairway for every fifty (50) feet of length or width.

(d) Such buildings shall be subject to the approval of the State Building Commissioner or Chief Building Inspector, and it shall be the duty of these officials to formulate rules and regulations governing the construction and use of these buildings, and such rules and regulations shall in every case be put in writing and placed on file for public inspection.

#### Amusement Parks.

Section 397. Buildings or structures hereafter erected within an amusement park, the construction or erection of which is not specifically provided for in this act, shall be subject to the approval of the State Building Commissioner or Chief Building Inspector, and it shall be the duty of these officials to formulate rules and regulations governing the construction and use of these buildings, and such rules and regulations in every case shall be put in writing and placed on file for public inspection.

Section 398. There shall be an open and unobstructed space of not less than ten (10) feet between each and every frame building hereafter erected in an amusement park where the buildings do not exceed twenty (20) feet in height; and of not less than fifteen (15) feet where the buildings are over twenty (20) feet and less than thirty (30) feet in height; and of not less than twenty (20) feet where the buildings are over thirty (30) feet in height. Where brick or concrete or other walls of approved fire-resistive materials are used between such buildings, and where such buildings are built of mill construction or fire-resistive construction these spaces shall not be required; but in such cases there shall be a space of twenty (20) feet in width at intervals of every two hundred (200) feet.

Section 399. (a) Before any roller coaster, scenic railway, water chute or other mechanical riding, sailing, sliding or swinging device is erected, either in existing or new amusement parks, a detailed plan shall be submitted to the State Building Commissioner or Chief Building Inspector, for his approval or rejection and, if approved,

a permit shall be procured by the person, firm or corporation desiring to erect such device.

(b) Every such device shall be examined by the State Building Commissioner or Chief Building Inspector upon completion.

(c) Before any such device is open to the public each season, a certificate of inspection signed by a competent structural engineer, and approved by the State Building Commissioner or Chief Building Inspector, must be furnished, certifying to the practicability, strength and safety of such device.

#### Roof Gardens.

Section 400. (a) Roof gardens hereafter erected will be permitted on buildings of fire-resistive construction, provided that they comply with the following requirements:

(b) The seating capacity shall be not more than one thousand (1,000) persons and where seats are not fixed an allowance of six (6) square feet of floor area shall be made for each person.

(c) At least two (2) of the main stairways of the building shall extend to such roof garden, and there shall be direct access to at least one (1) tower fire escape. In addition there shall be a sufficient number of high speed passenger elevators enclosed from the rest of the building by fire walls, of an aggregate capacity sufficient to convey the entire audience, which the roof garden is designed to accommodate, to the level of the main floor of the building in a space of time not to exceed thirty (30) minutes.

(d) Motion pictures may be exhibited provided that the building conforms to the requirements of this act relating to buildings of class Ib hereafter erected. Vaudeville acts not requiring scenery may be presented, provided that, the stage is constructed of approved fire-resistive materials.

#### Special Requirements for Buildings of Class Id Prior Erected.— Grandstands, Etc.

Section 401. In class I shall be included buildings in which people congregate for amusement, entertainment, social intercourse or worship.

(a) Theaters.

(b) Motion Picture Theaters.

(c) Assembly Halls.

(d) Grandstands, Summer Theaters, Observation Towers, Exhibition and Fair Buildings, Amusement Parks and Roof Gardens.

Section 402. (a) The following special requirements for buildings of class Id prior erected shall not be construed as exclusive of any of the other provisions of this act.



(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 403. Buildings of class Id prior erected shall be so designed and constructed as to safely sustain, in addition to the weight of the construction, partitions and permanent fixtures, a live load of one hundred (100) pounds on every square foot of surface. Stairways and fire escapes shall safely sustain a live load of one hundred and fifty (150) pounds on every square foot of treads and landings. Roofs of such buildings shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 404. All means of egress from buildings of class Id prior erected shall be by doors which shall open outward. Such doors shall be of approved design and construction, and may be provided with a lock of such a type which when the door is unlocked can be fastened in such a manner that the door cannot become locked accidentally, or by any person except an authorized person. No spring locks or dead latches will be permitted.

Section 405. No doors used as means of egress from buildings of class Id prior erected shall be locked or fastened during the entire time that the building is open to the public. No obstruction of any kind shall be placed in any aisle, corridor, hallway, passageway or exit.

#### Grandstands.

Section 406. (a) Grandstands of fire-resistive construction may accommodate any number of persons, provided they are not over three (3) tiers and can safely sustain the required loads.

(b) Grandstands of other than fire-resistive construction may accommodate not to exceed five thousand (5,000) persons; provided that, such grandstand is not within sixty (60) feet of any other building or structure or lot line of adjoining owner.

(c) Unless prohibited by local ordinance, grandstands accommodating not more than two thousand five hundred (2,500) persons may be built of other than fire-resistive construction.

Section 407. (a) In all grandstands prior erected, which are one hundred and fifty (150) feet or more in length, there shall be a self-supporting partition built of approved fire-resistive materials extending the width of the grandstand and from the ground to the underside of the floor or the underside of the seats. There shall be one (1) such partition for every one hundred (100) feet of length, exclusive of fractional parts thereof.

(b) The space underneath wooden grandstands shall be clear of obstruction, and no combustible material shall be placed thereunder, unless such space is entirely enclosed by walls or ceilings, except at the front, built of approved fire-resistive materials.

(c) Halls, passageways and exits shall be clear of obstruction, and no person will be permitted to stand therein while such grandstand is occupied by the public, other than necessary attendants.

#### Summer Theaters.

Section 408. (a) Summer theaters, prior erected seating not more than one thousand (1,000) persons may be of frame construction, provided that;

(b) All parts below the first floor line shall be of fire-resistive construction. No balcony or gallery will be permitted. Such summer theaters shall be not more than one (1) story high; shall be not nearer than thirty (30) feet to any other building or structure; and no part of the building shall be used for any other purpose while open to the public.

(c) Except as otherwise herein provided scenery will be permitted; provided that, the walls enclosing the stage, including the proscenium wall, shall be of fire-resistive construction and not less than twelve (12) inches thick. The openings between the auditorium and the stage shall be equipped with a steel curtain and fire doors as required for summer theaters hereafter erected. The stage construction and everything appurtenant thereto shall conform to the requirements for summer theaters hereafter erected.

(d) Such summer theaters having no roof over the auditorium and with at least double the means of egress from the auditorium and the stage that is required for theaters may have a stage and scenery constructed of other than approved fire-resistive materials. The requirements for the proscenium wall with its steel curtain and fire doors shall in no case, however, be changed.

(e) There shall be no basement or cellar under any part of the building which is of frame construction.

(f) The sides of the auditorium shall be unenclosed; except that, they may be enclosed if the same aggregate exit space as required for summer theaters hereafter erected is provided, which open directly into the adjoining court or open space.

(g) The highest point of the main floor of the auditorium shall be not more than three (3) feet above the level of the ground. Steps will be permitted at the entrances.

(h) If the sides of the auditorium are unenclosed, exit signs or lights need not be used; otherwise there shall be exit signs and lights as is herein required for summer theaters hereafter erected.



- (i) No mechanical heat or heating system will be permitted.
- (j) Where the seating capacity is greater than one thousand (1,000) the building shall be considered a theater and shall be subject to the requirements for buildings of class Id prior erected.

#### Observation Towers.

Section 409. Observation towers prior erected shall be subject to the rules and regulations of the State Building Commissioner or Chief Building Inspector.

#### Exhibition and Fair Buildings.

Section 410. (a) Exhibition and fair buildings prior erected of frame construction shall not be more than two (2) stories in height. When of ordinary or mill construction they may be three (3) stories in height.

(b) There shall be at least two (2) exits, one (1) on each side and one (1) for every fifty (50) feet of length or width of the building.

(c) Temporary seats, boxes, show-cases and booths may be constructed of combustible materials; provided that, they do not extend in a continuous line more than fifty (50) feet without a passageway at least three (3) feet in width.

(d) Not more than one (1) balcony will be permitted; provided that, there are at least two (2) stairways leading to the ground or to the main floor and at least one (1) such stairway for every fifty (50) feet of length or width.

#### Amusement Parks.

Section 411. Buildings or structures prior erected within an amusement park shall be subject to the rules and regulations of the State Building Commissioner or Chief Building Inspector necessary for the protection of life and property.

#### Roof Gardens.

Section 412. Roof gardens prior erected shall be subject to the requirements for roof gardens hereafter erected.

## ARTICLE VIII.

### Class II Buildings.

#### Special Requirements for Buildings of Class IIa Hereafter Erected.— Primary Schools, Etc.

Section 413. In Class II shall be included buildings used for the purposes of education and culture.

- (a) Primary, Grammar or High Schools, and buildings or portions thereof used for school purposes by pupils or students averaging not over eighteen (18) years of age.
- (b) Colleges, Academies, Seminaries, Libraries, Museums, Art Galleries and all school buildings not included in Class IIa.

Section 414. (a) The following special requirements for buildings of Class IIa hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 415. Buildings of Class IIa hereafter erected shall be so designed and constructed that the floors shall safely sustain, in addition to the weight of the floor construction, partitions, permanent fixtures and mechanisms, a live load of not less than one hundred (100) pounds on every square foot of surface; and the stairs and stairways a live load of not less than one hundred and fifty (150) pounds on every square foot of treads and landings. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 416. (a) Buildings of Class IIa hereafter erected shall be ventilated by an approved mechanical system, except as herein otherwise provided, which will supply not less than one thousand five hundred (1,500) cubic feet of fresh air per hour to each person designed to be accommodated.

(b) Where the capacity is three hundred (300) or less, and where the capacity is greater than three hundred (300) during seasons when artificial heat is not needed, ventilation may be effected by windows; but the aggregate area of the windows when open, measured from the top to a line seven (7) feet above the floor, shall be not less than one-quarter ( $\frac{1}{4}$ ) of a square foot for each person for whom accommodation is provided.

(c) The number, size and location of the air inlets and discharging ducts shall be such as to distribute the incoming air and remove the vitiated air evenly without exposing any person to direct draft.

(d) The fresh air supply shall be taken from outside the building, and no vitiated air, or air from basements, cellars, or other rooms



shall be used for ventilating purposes, and such air shall be filtered when so ordered by the Local Board of Health or State Department of Health.

(e) Such buildings shall be thoroughly ventilated immediately before and immediately after each occupation, and the ventilating system shall be kept in constant operation during the occupation.

(f) Blowers used to distribute air through ventilating pipes, ducts or flues shall be electrically operated, and shall be provided with fusible links to stop the blowers automatically in case of fire. Such fusible links shall be connected with an automatic cut-out at the motor, and shall be located subject to the approval of the Local or State Fire Marshal.

(g) Dampers shall be provided at the intake of all ventilating pipes, ducts or flues, and shall be held open by a combustible cord.

(h) Exhausted or vitiated air shall be carried to a point at least two (2) feet above the roof.

Section 417. Doors used as a means of egress from any building of Class IIa hereafter erected shall open outward and shall not be locked or fastened during the entire time that the building is occupied for school purposes or open to the public. Doors shall not be provided with dead latches or locks operated by springs, or by bolts that are held in an unlocked position by springs or friction catches. Such doors shall be of approved design and construction and so constructed that when they are unlocked they cannot become locked accidentally or by any person except an authorized person.

Section 418. (a) Buildings of Class IIa hereafter erected shall be not more than three (3) stories and basement in height.

(b) Where such buildings are not more than one (1) story and basement in height, and the seating capacity is less than two hundred (200) and the first floor level is not more than four (4) feet above grade, it may be of frame construction; provided that, it is not within thirty (30) feet of any other building or structure.

(c) If not more than two (2) stories in height such buildings may be of mill construction or ordinary construction.

(d) If more than two (2) stories in height such buildings shall be of fire-resistive construction.

Section 419. Buildings of Class IIa hereafter erected shall not occupy more than eighty (80) per cent. of a corner lot nor more than seventy (70) per cent of an interior lot, the measurements being taken at the ground level.

(b) Buildings of this class shall be so situated upon a lot or site that thirty (30) square feet of ground area will be allowed per pupil for playground space, exclusive of the ground area occupied by the building.

Section 435. Buildings of a class other than IIa will be permitted to be used for the purpose of Class IIa; provided that, no common school or school of general instruction will be permitted, but only vocational, trade, business and other schools for the purposes of special instruction; and provided further that, the total attendance of such school is not over two hundred (200), and that the building and that portion of the building occupied for such school purposes shall be governed by the requirements relating to buildings of Class IIa hereafter erected, assembly halls.

Section 436. (a) Buildings of Class IIa hereafter erected shall have at least one (1) two and one-half (2½) gallon chemical hand fire extinguisher on every floor, and shall have at least one (1) on every floor for every fifty (50) feet of greatest dimension of the building.

(b) In such buildings two (2) or more stories in height there shall be at least one (1) standpipe constructed as required by this act, together with approved fire hose and connections as required by this act. Such hose shall be not more than fifty (50) feet in length. A sufficient number of such standpipes with approved fire hose attached shall be provided to enable a stream of water to be thrown on any part of any floor.

Section 437. In buildings of Class IIa hereafter erected each school room shall be equipped with an electric alarm bell which can be operated from any story or from the office or the heater room. In addition there shall be one (1) hand operated gong located in the main hall or corridor of the first story capable of being heard throughout the building.

Section 438. (a) In buildings of Class IIa hereafter erected the location and position of all hand fire apparatus required by this act shall be determined by the Local or State Fire Marshal, and shall not be removed from that position except when actually in use or for purposes of instruction and inspection. When through, such apparatus shall be replaced in good working order. All hand fire extinguishers shall be fastened in position by a fine cord that may be easily broken, and such cord shall be sealed with a tag showing the date of sealing.

(b) Attached to the nozzle of all chemical hand fire extinguishers shall be a long needle or steel wire suitable for cleaning out the opening of the nozzle in case it should become clogged up.

Section 439. (a) Every employe in buildings of Class IIa hereafter erected shall be required to know how to handle and operate all fire apparatus in the building.



Section 427. (a) Assembly halls located in buildings of Class to buildings of Class Ic hereafter erected.

(b) Where electric light current is not available small portable acetylene tanks may be used for exhibiting stereopticon and motion pictures subject to the approval of the Local or State Fire Marshal. Other forms of lighting made by the compounding of gases, commonly known as calcium lights, are prohibited.

Section 428. (a) Furnaces, hot water heating boilers and low pressure steam boilers may be located in buildings of Class IIa hereafter erected; provided that, the heating apparatus, fuel room and firing room are included in a room the walls and ceiling of which are composed of approved fire-proof materials; and provided further that, all openings into the same from the other parts of the building are covered by approved self-closing hinged fire doors.

(b) No such room shall be located under any lobby, exit, stairway or common hall.

(c) No castiron boiler operated at more than ten (10) pounds pressure or steel boiler operated at more than thirty-five (35) pounds pressure shall be located within the main walls of any such building.

(d) All piping leading from the heater room to the risers shall be covered with an approved pipe covering at least one (1) inch in thickness.

Section 429. (a) In buildings of Class IIa hereafter erected no corridor, hallway or passageway shall be less than five (5) feet in width and no doorway shall be less than four (4) feet in width; except that, door openings leading out of the building shall be at least six (6) feet in width.

(b) The main halls of such buildings shall be not less than ten (10) feet in width.

Section 430. (a) Every portion of buildings of Class IIa hereafter erected devoted to the uses or accommodation of the public and outlets therefrom leading to the streets, including the open IIa hereafter erected shall be subject to all the provisions relating courts and corridors, stairways and exits, shall be well and properly lighted during the entire time it is in use, and shall be kept lighted until the pupils and the audience have left the premises.

(b) All electric lights in the class rooms of the main building and in halls, corridors, lobbies, stairs and exits leading from the assembly halls, shall have separate circuits from the electric switchboard from those of the assembly hall.

(c) If electricity is not available such building shall be lighted by some approved means. The use of kerosene or fluid oil lamps is prohibited.

Section 431. (a) In buildings of Class IIa hereafter erected the proportion of glass surface in each class room, study room, recitation room and laboratory, shall be not less than one (1) square foot of glass to each five (5) square feet of floor area.

(b) The proportion of glass surface in each play, toilet or recreation room shall be not less than one (1) square foot of glass surface to each ten (10) square feet of floor area.

(c) Windows shall be placed either at the left, or the left and rear of the pupils when seated.

(d) Tops of windows shall be placed not more than eight (8) inches below the ceiling.

(e) The unit measurement for the width of a properly lighted room, when lighted from one (1) side only, shall be the height of the window head above the floor. The width of all class and recitation rooms when lighted from one (1) side only shall never exceed two and one-half ( $2\frac{1}{2}$ ) times this unit measured at right angles to the source of light.

(f) All windows shall be placed in the exterior walls of the building; except that, common halls, corridors, and stock and supply closets may be lighted by ventilated skylights or by windows placed in partitions or partition walls.

Section 432. In buildings of Class IIa hereafter erected, containing four (4) school or class rooms and not more than eight (8) school or class rooms, one (1) rest or hospital room shall be provided; and in such buildings containing more than eight (8) school or class rooms, two (2) such rooms shall be provided. Each rest room shall be provided with a water-closet and sink.

Section 433. In buildings of Class IIa hereafter erected there shall be at least two (2) exits from the main floor, and if any such building is designed for occupancy by more than six hundred (600) persons there shall be one (1) additional exit on the main floor for every additional three hundred (300) persons or fractional part thereof.

Section 434. (a) In buildings of Class IIa hereafter erected there shall be at least two (2) stairways which shall form a continuous route from the top floor to the ground. Such stairways shall be placed on opposite sides of the building, and the entrances to each stairway at the top floor of the building shall be on opposite sides of the building and the bottom of each stairway shall be on opposite sides of the building.

(b) If any such building shall be designed to accommodate more than six hundred (600) persons on any floor there shall be an additional stairway from that floor for every additional three hundred (300) persons or fractional part thereof, which shall lead to the



ground by means of exits separate from the exits of the two required stairways.

(c) The number of stairways from the second floor shall be determined by the number which the building is designed to accommodate on the second and third floors.

(d) The bottom of one (1) flight of stairs in a stairway shall be within at least twenty (20) feet of the top of the next flight; and the last flight shall in every case lead in the direction of the exit door opening to the outside of the building. The bottom of the last flight of stairs shall be within at least twenty (20) feet of such exit door.

(e) In every stairway the flights of stairs from both directions shall lead at every floor into a space which shall be separated from the rest of the building by a fire-resistive partition. This fire resistive partition may be constructed of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames and shall have doors which shall be either approved double swinging fire doors or they shall be double swinging doors constructed of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames. These doors shall in every case be at least ten (10) feet away from the top or bottom of any flight of stairs. The space formed by this fire-resistive partition shall never have a least dimension of less than ten (10) feet.

(f) No exit door of any stairway, which opens to the outside of a building shall be within twenty (20) feet of any other exit door unless a fire-resistive partition is constructed on the main floor enclosing the bottom flight of stairs and both such exit doors. This fire-resistive partition shall be constructed in the same manner as herein required for fire-resistive partitions at landings and floor levels. The least dimension of the vestibule thus formed shall be ten (10) feet.

(g) All stairways shall have hand rails on each side thereof which shall be three (3) feet in height. No flight of stairs shall extend higher than from floor to floor.

(h) Winders are prohibited.

(i) Stairways which are eight (8) feet or more in width shall have double intermediate hand rails with end newel posts at least seven (7) feet high.

(j) All stairways and their enclosing walls shall be constructed of approved fire-resistive materials.

(k) Outside stairways shall be built of stone, cement or concrete, and the space under such outside stairways shall not be used for storage or for an entrance to the cellar or basement.

(l) There shall not be any communication between the basement and cellar and the rest of the building; there shall be at least two (2) stairways leading from the basement outside of the building which shall be located on opposite sides of the building.

(e) Buildings of this class not more than one (1) story in height and located without the limits of any city or borough may have outhouses and privies located in the yard; provided that, such outhouses and privies are constructed and maintained in a manner satisfactory to the Local Board of Health or State Department of Health; and provided further, that they are located as far apart as practicable and thoroughly screened one from the other.

(f) Where toilet rooms are maintained in the basement, access to boys' and girls' toilet rooms shall be by separate and independent stairways, and such toilet rooms shall be in separate parts of the basement which shall be completely separated from each other by solid walls without doors or other openings.

(g) Toilet rooms shall not be maintained in cellars.

(h) All toilet rooms shall be maintained in a clean and sanitary condition.

**Special Requirement for Buildings of Class IIa Prior Erected.—**  
**Primary Schools, Etc.**

**Section 446.** In Class II shall be included buildings used for the purpose of education and culture.

(a) Primary, Grammar or High Schools, and buildings or portions thereof used for school purposes by pupils or students averaging not over eighteen (18) years of age.

(b) Colleges, Academies, Seminaries, Libraries, Museums, Art Galleries and all school buildings not included under Class IIa.

**Section 447.** (a) The following special requirements for buildings of Class IIa prior erected shall not be construed as exclusive of any other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

**Section 448.** Buildings of Class IIa prior erected shall be so designed and constructed that the floors shall safely sustain, in addition to the weight of the floor construction, partitions, permanent fixtures and mechanisms a live load of not less than one hundred (100) pounds on every square foot of surface; and the stairs and stairways a live load of not less than one hundred and fifty (150) pounds on every square foot of treads and landings. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

**Section 449.** (a) Buildings of Class IIa prior erected shall be ventilated by an approved mechanical system, except as herein otherwise provided, which will supply not less than one thousand five hun-



dred (1,500) cubic feet of fresh air per hour to each person designed to be accommodated.

(b) Where the capacity is three hundred (300) or less, and where the capacity is greater than three hundred (300) during seasons when artificial heat is not needed, ventilation may be effected by windows; but the aggregate area of the windows when open, measured from the top to a line seven (7) feet above the floor, shall be not less than one-quarter ( $\frac{1}{4}$ ) of a square foot for each person for whom accommodation is provided.

(c) The number, size and location of the air inlets and discharging ducts shall be such as to distribute the incoming air and remove the vitiated air evenly without exposing any person to direct draft.

(d) The fresh air supply shall be taken from outside the building, and no vitiated air, or air from basements, cellars, or other rooms shall be used for ventilating purposes, and such air shall be filtered when so ordered by the Local Board of Health or State Department of Health.

(e) Such buildings shall be thoroughly ventilated immediately before and immediately after each occupation, and the ventilating system shall be kept in constant operation during the occupation.

(f) Blowers used to distribute air through ventilating pipes, ducts or flues shall be electrically operated, and shall be provided with fusible links to stop the blowers automatically in case of fire. Such fusible links shall be connected with an automatic cut-out at the motor, and shall be located subject to the approval of the Local or State Fire Marshal.

(g) Dampers shall be provided at the intake of all ventilating pipes, ducts or flues, and shall be held open by a combustible cord.

(h) Exhausted or vitiated air shall be carried to a point at least two (2) feet above the roof.

Section 450. Doors used as a means of egress from buildings of Class IIa prior erected shall open outward and shall not be locked or fastened during the entire time that the building is occupied for school purposes or open to the public. Doors shall not be provided with dead latches or locks operated by springs, or by bolts that are held in an unlocked position by springs, or by bolts that are held in an unlocked position by springs or friction catches. Such doors shall be of approved design and construction and so constructed that when they are unlocked they cannot become locked accidentally or by any person except an authorized person.

Section 451. No room in any basement or cellar of buildings of Class IIa prior erected shall be used for school purposes; except that, rooms for domestic science, manual training or recreation may be placed in the basement, provided the same are properly lighted,

heated and ventilated. If areaways are used the width of the areaway shall be not less than the distance from the lowest window sill to grade, or to the coping at the surface of the ground if such surface is higher than grade.

Section 452. (a) Every school and class room in buildings of Class IIa prior erected shall have at least sixteen (16) square feet of floor area per pupil.

(b) Every such room shall have minimum dimensions of twenty-four (24) feet by thirty-two (32) feet, and if the room is increased in size, it shall be increased in the ratio of three (3) to four (4).

Section 453. Aisles in class and school rooms in buildings of Class IIa prior erected shall have a uniform width of not less than two (2) feet six (6) inches. All groups of seats shall be so arranged that there shall be an aisle on each side.

Section 454. Seats, chairs and desks placed in class, recitation and study rooms in buildings of Class IIa prior erected shall be securely fastened to the floor; except in rooms seating less than twenty (20) persons, and where the nature of the occupancy will not permit, such as rooms used for the teaching of drawing. Desks and chairs used by the teachers may be portable.

Section 455. (a) Assembly halls located in buildings of Class IIa prior erected shall be subject to all the provisions relating to buildings of Class Ic prior erected.

(b) Where electric light current is not available small portable acetylene tanks may be used for exhibiting stereopticon and motion pictures subject to the approval of the Local or State Fire Marshal. Other forms of lighting made by the compounding of gases, commonly known as calcium lights, are prohibited.

Section 456. (a) Furnaces, hot water heating boilers and low pressure steam boilers may be located in buildings of Class IIa prior erected; provided that, the heating apparatus, fuel room and firing room are included in a room the walls and ceiling of which are composed of approved fire-resisting materials; and provided further that, all openings into the same from the other parts of the building are covered by approved self-closing hinged fire doors.

(b) No such room shall be located under any lobby, exit, stairway or common hall.

(c) No cast iron boiler operated at more than ten (10) pounds pressure or steel boiler operated at more than thirty-five (35) pounds pressure shall be located within the main walls of any such building.

(d) All piping leading from the heater room to the risers shall be covered with approved pipe covering at least one (1) inch in thickness.



Section 457. (a) In buildings of Class IIa prior erected no corridor, hallway or passageway shall be less than five (5) feet in width and no doorway shall be less than four (4) feet in width; except that, door openings leading out of the building shall be at least six (6) feet in width.

(b) The main halls of such buildings shall be not less than ten (10) feet in width.

Section 458. (a) Every portion of buildings of Class IIa prior erected devoted to the uses or accommodation of the public and outlets therefrom leading to the streets, including the open courts and corridors, stairways and exits, shall be well and properly lighted during the entire time it is in use, and shall be kept lighted until the pupils and the audience have left the premises.

(b) All electric lights in the class room of the main building and in halls, corridors, lobbies, stairs and exits leading from the assembly halls, shall have separate circuits from the electric switchboard from those of the assembly hall.

(c) If electricity is not available such building shall be lighted by some approved means. The use of kerosene or fluid oil lamps is prohibited.

Section 459. (a) In buildings of Class IIa prior erected the proportion of glass surface in each class room, study room, recitation room and laboratory, shall be not less than one (1) square foot of glass to each five (5) square feet of floor area.

(b) The proportion of glass surface in each play, toilet or recreation room shall be not less than one (1) square foot of glass surface to each ten (10) square feet of floor area.

(c) Windows shall be placed either at the left, or the left and rear of the pupils when seated.

(d) Tops of windows shall be placed not more than eight (8) inches below the ceiling.

(e) The unit measurement for the width of a properly lighted room, when lighted from one (1) side only, shall be the height of the window head above the floor. The width of all class and recitation rooms when lighted from one (1) side only shall never exceed two and one-half ( $2\frac{1}{2}$ ) times this unit measured at right angles to the source of light.

(f) All windows shall be placed in the exterior walls of the building; except that, common halls, corridors, and stock and supply closets may be lighted by ventilating skylights or by windows placed in partitions or partition walls.

Section 460. In buildings of Class IIa prior erected, containing four (4) school or class rooms and not more than eight (8) school or class rooms, one (1) rest or hospital room shall be provided; and

In such buildings containing more than eight (8) school or class rooms, two (2) such rooms shall be provided. Each rest room shall be provided with a water-closet and sink.

Section 461. In buildings of Class IIa prior erected there shall be at least two (2) exits from the main floor, and if any such building is designed for occupancy by more than six hundred (600) persons there shall be one (1) additional exit on the main floor for every additional three hundred (300) persons or fractional part thereof.

Section 462. (a) In buildings of Class IIa prior erected there shall be at least two (2) stairways on opposite sides of the building or as far apart as practicable extending from the top floor to the ground. At each floor landing such stairways shall be separated from the rest of the building by fire-resistive partitions.

(b) Sufficient stairways shall be provided to accommodate the maximum number of persons which the building is designed to accommodate.

Section 463. Buildings of a class other than IIa will be permitted to be used for the purpose of Class IIa; provided that no common school or school of general instruction will be permitted, but only vocational, trade, business and other schools for the purposes of special instruction; and provided further that, the total attendance of such school is not over two hundred (200), and that the building and that portion of the building occupied for such school purposes shall be governed by the requirements relating to buildings of Class Ic prior erected, assembly halls.

Section 464. (a) Buildings of Class IIa prior erected shall have at least one (1) two and one-half ( $2\frac{1}{2}$ ) gallon chemical hand fire extinguisher on every floor, and shall have at least one (1) on every floor for every fifty (50) feet of greatest dimension of the building.

(b) In such buildings two (2) or more stories in height there shall be at least one (1) standpipe constructed as required by this act, together with approved fire hose and connections as required by this act. Such hose shall be not more than fifty (50) feet in length. A sufficient number of such standpipes with approved fire hose attached shall be provided to enable a stream of water to be thrown on any part of any floor.

Section 465. In buildings of Class IIa prior erected each school room shall be equipped with an electric alarm bell which can be operated from any story or from the office or the heater room. In addition there shall be one (1) hand operated gong located in the main hall or corridor of the first story capable of being heard throughout the building.



Section 466. (a) In buildings of Class IIa prior erected the location and position of all hand fire apparatus required by this act shall be determined by the Local or State Fire Marshal, and shall not be removed from that position except when actually in use or for purposes of instruction and inspection. When through, such apparatus shall be replaced in good working order. All hand fire extinguishers shall be fastened in position by a fine cord that may be easily broken, and such cord shall be sealed with a tag showing the date of sealing.

(b) Attached to the nozzle of all chemical hand fire extinguishers shall be a long needle or steel wire suitable for cleaning out the opening of the nozzle in case it should become clogged up.

Section 467. (a) Every employe in buildings of Class IIa prior erected shall be required to know how to handle and operate all fire apparatus in the building.

(b) Within thirty (30) days prior to the opening of every school in each school year there shall be a fire fighting drill of all employes of the school during which the fire apparatus shall be taken down and the operation thereof explained.

(c) A written report of such fire fighting drill shall be made to the Local or State Fire Marshal within at least thirty (30) days thereafter.

(d) Such fire fighting drills shall at all times be subject to the supervision of the Local or State Fire Marshal, and whenever such fire fighting drills are not satisfactory it shall be his duty to require further and satisfactory fire fighting drills.

(e) Every new employe shall be instructed in the use of all fire apparatus before commencing his duties.

Section 468. Buildings of Class IIa prior erected more than two (2) stories in height shall have at least one (1) tower fire escape constructed as required by this act. Such tower fire escape shall be located as far as practicable from each of the stairways required by this act, and shall be accessible from every part of every story without passing a stairway or an elevator unless the stairway or elevator is enclosed by a fire-resistive partition.

(b) There shall be an outside stairway constructed of iron or steel in an approved manner leading from the entrance to the tower fire escape on the topmost story to the roof.

Section 469. (a) In buildings of Class IIa prior erected there shall be at least one (1) bulkhead located in the ceiling of the main hall of the top story. It shall be of a size not less than twenty-four (24) inches by thirty (30) inches, and shall be covered on the outside with metal; access thereto shall be by means of stairs, having

risers not more than eight (8) inches high and treads not less than nine (9) inches wide, and a hand rail three (3) feet high.

(b) No bulkhead or scuttle shall have any lock on it or be otherwise securely fastened, but may be fastened on the inside by movable bolts or hooks. There shall be at least one (1) hand rail on the roof leading to the outside stairway from the tower fire escape which shall be constructed of iron or steel and capable of withstanding a lateral pressure of two hundred (200) pounds at any point along the rail.

(c) If the pitch of the roof exceeds (1) foot rise in eight (8) feet there shall be a level platform or stairway at least three (3) feet wide leading from every bulkhead and scuttle to the outside stairway from the tower fire escape and such platform shall have hand rails on each side.

Section 470. (a) In buildings of Class IIa prior erected not more than one (1) story in height a common heating stove may be used, provided it shall be enclosed within a sheet or jacket of galvanized iron or other approved fire-resistive materials, which shall be of sufficient height and so placed as to protect pupils from the direct rays of heat.

(b) Stove pipes shall lead directly into a smoke flue and shall be not nearer a ceiling or wall than eighteen (18) inches.

Section 471. (a) It shall be the duty of the engineer or janitor of every building of Class IIa prior erected used as a public school, to examine all fire escapes on such building from the topmost story to the ground, and to examine and operate all doors, windows and platforms leading to and from such fire escapes at least once each and every week; and also to examine all fire apparatus and to make a report of such examination to the principal. It shall be the duty of such principal to make a written report of such examinations at least once a month to the president of the board of school directors in the district in which such school is located, and such report shall be kept on file for at least one (1) year and be available for public reference. It shall be the duty of such president of such board of school directors to make a written report to the Local or State Fire Marshal at least three (3) times a year, showing all such examinations made and the condition in which the fire apparatus and fire escapes were found at the time of inspection; and also report upon the condition of the doors, windows and platforms leading to and from such fire escapes and whether they comply with the requirements of this act.

(b) It shall be the duty of the person in charge of each building used in whole or in part for the purposes of this class, other than public school buildings, to make an examination of the fire escapes



on such buildings from the topmost story to the ground, and to examine and operate all doors, windows and platforms leading to or from such fire escape at least once each and every week, and also to examine all fire apparatus and to make a written report to the Local or State Fire Marshal at least three (3) times a year, showing all such inspections made and the condition in which the fire escapes, doors, windows and platforms were found at the time of the inspection and whether they comply with the requirements of this act.

(c) The duties herein imposed by this section shall not be held to relieve the Local or State Fire Marshal, or the State Building Commissioner or Chief Building Inspector from any of their duties as prescribed by law.

Section 472. (a) The principal or teacher or other person in charge of any building of Class IIa prior erected shall establish and maintain a good and efficient fire drill, which shall be practised at least twice every month during the time such building is used for school purposes. Such person shall make a written report to the president of the board of school directors of the district in which such building is located, when used as a public school, of each fire drill and of the time that elapsed from the first fire signal until the last pupil was out of the building.

(b) It shall be the duty of the president of such board to make a written report to the Local or State Fire Marshal at least three (3) times a year, giving a record of all such fire drills practised in every such school or school building.

(c) When such building is not used as a public school and is more than one (1) story in height, the principal or teacher or other person in charge thereof shall make a written report to the Local or State Fire Marshall at least three (3) times a year, giving a record of every fire drill held and the time that elapsed from the time the first signal was given until the last person was out of the building.

(d) The duties herein imposed in this section shall not be held to relieve the Local or State Fire Marshal or the State Building Commissioner or Chief Building Inspector from any of their duties prescribed by law.

Section 473. (a) Buildings of Class IIa prior erected shall be connected with a public water system and sewer system if such are available or there shall be installed a private water system and sewer system that shall be satisfactory to the Local Board of Health or State Department of Health.

(b) Except as is herein otherwise provided every building of this class shall have separate toilet rooms within the building for boys and girls, and such toilet rooms shall at all times be as far apart as practicable. No part of one (1) such toilet room shall be within less than twenty (20) feet of any part of any other toilet room.

(c) Toilet rooms for boys shall be marked "Boys" and toilet rooms for girls shall be marked "Girls." In boys' toilet rooms one (1) water-closet compartment and one (1) urinal shall be provided for each twenty-five (25) boys or fractional part thereof whom the building is designed to accommodate. In girls' toilet rooms one (1) water-closet shall be provided for each fifteen (15) girls or fractional part thereof whom the building is designed to accommodate. All toilet rooms shall have at least one (1) lavatory. In buildings occupied by both boys and girls it shall be presumed that one-half ( $\frac{1}{2}$ ) of the occupants shall be boys and one-half ( $\frac{1}{2}$ ) girls unless such building is used exclusively for either sex, or unless a different constant proportion is known.

(d) Walls of toilet rooms shall be of rough finish and kept well-painted.

(e) Buildings of this class not more than one (1) story in height and located without the limits of any city or borough may have outhouses and privies located outside of the building; provided that, such outhouses and privies are constructed and maintained in a manner satisfactory to the Local Board of Health or State Department of Health; and provided further that, they are located as far apart as practicable and thoroughly screened one from the other.

(f) Where toilet rooms are maintained in the basement, access to boys' and girls' toilet rooms shall be by separate and independent stairways, and such toilet rooms shall be in separate parts of the basement which shall be completely separated from each other by solid walls without doors or other openings.

(g) Toilet rooms shall not be maintained in cellars.

(h) All toilet rooms shall be maintained in a clean and sanitary condition.

Special Requirements for Buildings of Class IIb Hereafter Erected.—  
Colleges, Etc.

Section 474. In Class II shall be included buildings used for the purposes of education and culture.

(a) Primary, Grammar or High Schools, and all buildings or portions thereof used for school purposes by pupils or students averaging not over eighteen (18) years of age.

(b) Colleges, Academies, Seminaries, Libraries, Museums, Art Galleries and all school buildings not included under Class IIa.

Section 475. (a) The following special requirements for buildings of Class IIb hereafter erected shall not be construed as exclusive of any of the other provisions of this act.



(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 476. Buildings of Class IIb hereafter erected shall be so designed and constructed that the floors and treads and landings of stairways shall safely sustain in addition to the weight of the floor and stairway construction, partitions, permanent fixtures and mechanisms, a live load of one hundred (100) pounds on every square foot of surface. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 477. (a) Buildings of Class IIb hereafter erected shall be ventilated by an approved mechanical system; except as herein otherwise provided, which will supply not less than one thousand five hundred (1,500) cubic feet of fresh air per hour to each person designed to be accommodated.

(b) Where the capacity is three hundred (300) or less, and where the capacity is greater than three hundred (300) during seasons when artificial heat is not needed, ventilation may be effected by windows; but the aggregate area of the windows when open, measured from the top to a line seven (7) feet above the floor, shall be not less than one-quarter ( $\frac{1}{4}$ ) of a square foot for each person for whom accommodation is provided.

(c) The number, size and location of the air inlets and discharging ducts shall be such as to distribute the incoming air and remove the vitiated air evenly without exposing any person to direct draft.

(d) The fresh air supply shall be taken from outside the building, and no vitiated air, or air from basements, cellars, or other rooms shall be used for ventilating purposes, and such air shall be filtered when so ordered by the Local Board of Health or State Department of Health.

(e) Such buildings shall be thoroughly ventilated immediately before and immediately after each occupation, and the ventilating system shall be kept in constant operation during the occupation.

(f) Blowers used to distribute air through ventilating pipes, ducts or flues shall be electrically operated, and shall be provided with fusible links to stop the blowers automatically in case of fire. Such fusible links shall be connected with an automatic cut-out at the motor, and shall be located subject to the approval of the Local or State Fire Marshal.

(g) Dampers shall be provided at the intake of all ventilating pipes, ducts or flues, and shall be held open by a combustible cord.

(h) Exhausted or vitiated air shall be carried to a point at least two (2) feet above the roof.

Section 478. Doors used as a means of egress from any building of class IIb hereafter erected shall open outward and shall not be

locked or fastened during the entire time that the building is occupied for school purposes or open to the public. Doors shall not be provided with dead latches or locks operated by springs, or by bolts that are held in an unlocked position by springs or friction catches. Such doors shall be of approved design and construction, and so constructed that which they are unlocked they cannot become locked accidentally or by any person except an authorized person.

Section 479. In buildings of class IIb hereafter erected there shall be at least two (2) exits from the main floor, and if any such building is designed for occupancy by more than six hundred (600) persons there shall be one (1) additional exit on the main floor for every additional three hundred (300) persons or fractional part thereof.

Section 480. (a) In every building of class IIb hereafter erected there shall be at least two (2) stairways which shall form a continuous route from the top floor to the ground. Such stairways shall be placed on opposite sides of the building, and the entrances to each stairway at the top floor of the building shall be on opposite sides of the building and the bottom of each stairway shall be on opposite sides of the building.

(b) If any such building shall be designed to accommodate more than six hundred (600) persons on any floor there shall be an additional stairway from that floor for every additional three hundred (300) persons or fractional part thereof, which shall lead to the ground by means of exits separate from the exits of the two (2) required stairways.

(c) The number of stairways from the second floor shall be determined by the number which the building is designed to accommodate on the second and third floors.

(d) The bottom of one (1) flight of stairs in a stairway shall be within at least twenty (20) feet of the top of the next flight; and the last flight shall in every case lead in the direction of the exit door opening to the outside of the building. The bottom of the last flight of stairs shall be within at least twenty (20) feet of such exit door.

(e) In every stairway the flights of stairs from both directions shall lead at every floor into space which shall be separated from the rest of the building by a fire-resistive partition. This fire-resistive partition may be constructed of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames and shall have doors which shall be either approved double swinging fire doors or they shall be double swinging doors constructed of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames. These doors shall in every case be at least ten (10) feet away from the top or bottom



of any flight of stairs. The space formed by this fire-resistive partition shall never have a least dimension of less than ten (10) feet.

(f) No exit door of any stairway, which opens to the outside of such buildings shall be within twenty (20) feet of any other exit door unless a fire-resistive partition is constructed on the main floor enclosing the bottom flight of stairs and both such exit doors. This fire-resistive partition shall be constructed in the manner as herein required for fire-resistive partitions at stairway landings at floor levels. The least dimension of the vestibule thus formed shall be ten (10) feet.

(g) All stairways shall have hand rails on each side thereof which shall be three (3) feet in height. No flight of stairs shall extend higher than from floor to floor.

(h) Windows are prohibited.

(i) Stairways which are eight (8) feet or more in width shall have double intermediate hand rails with end newel posts at least seven (7) feet high.

(j) All stairways and their enclosing walls shall be constructed of approved fire-resistive materials.

(k) Outside stairways shall be built of stone cement or concrete, and the space under such outside stairways shall not be used for storage or for an entrance to the cellar or basement.

(l) There shall not be any communication between the basement and cellar and the rest of the building; there shall be at least two (2) stairways leading from the basement outside of the building which shall be located on opposite sides of the building.

Section 481. (a) Buildings of class IIb hereafter erected may have courts; provided that, the least distance between any two (2) opposite walls containing windows used for lighting school and class rooms is not less than thirty (30) feet.

(b) If areaways are used for lighting basements, the width of the areaway shall be not less than the height from the lowest window sill to grade or to the surface of the ground, if the same is higher than grade.

Section 482. Every building of class IIb hereafter erected shall have the first floor level at least three (3) feet above grade.

Section 483. (a) The height of stories in all buildings of class IIb hereafter erected shall be not less than twelve (12) feet.

(b) The basement shall be not less than eight (8) feet in depth.

(c) There shall be only one (1) cellar or basement. Every room or compartment in the basement or cellar shall have at least one (1) window at least three (3) feet high and two (2) feet wide.

Section 484. In buildings of class IIb hereafter erected no room used for school purposes shall be placed wholly or partly below

grade or the surface of the ground except that rooms for Domestic Science, Manual Training and Recreation may be placed in the basement; provided that, such rooms are properly lighted, heated and ventilated.

Section 485. (a) Every school and class room in buildings of class IIb hereafter erected shall have at least sixteen (16) square feet of floor area for pupil.

(b) Every such room shall have minimum dimensions of twenty-four (24) feet by thirty-two (32) feet, and if the room is increased in size, it shall be increased in the ratio of three (3) to four (4).

Section 486. (a) Assembly Halls located in buildings of class IIb hereafter erected shall be subject to all the provisions relating to buildings of class Ic hereafter erected, assembly Halls.

(b) Where electric light current is not available small portable acetylene tanks may be used for exhibiting stereopticon and motion pictures subject to the approval of the Local or State Fire Marshal. Other forms of lighting made by the compounding of gases, commonly known as calcium lights, are prohibited.

Section 487. (a) Furnaces, hot water heating boilers and low pressure steam boilers may be located in buildings of class IIb hereafter erected, provided that the heating apparatus, fuel room and firing room are included in a room the walls and ceiling of which are composed of approved fire-resistive materials, and provided that, all openings into the same from the other parts of the building are covered by approved self-closing fire doors.

(b) No such room shall be located under any lobby, exit, stairway or common hall.

(c) No cast iron boiler operated at more than ten (10) pounds pressure or steel boiler operated at more than thirty-five (35) pounds pressure shall be located within the main walls of any such building.

(d) All piping leading from the heater room to the risers shall be covered with an approved pipe covering at least one (1) inch in thickness.

Section 488. (a) In buildings of class IIb hereafter erected no corridors, hallway or passageway shall be less than five (5) feet in width and no doorway shall be less than four (4) feet in width; except that door openings leading out of the building shall be at least six (6) feet in width.

(b) The main halls of such buildings shall be not less than ten (10) feet in width.



**Section 489.** (a) Every portion of any building of class IIb hereafter erected devoted to the uses or accommodation of the public and outlets therefrom leading to the streets, including the open courts and corridors, stairways and exits, shall be well and properly lighted during the entire time it is in use, and shall be kept lighted until all of the public have left the premises.

(b) All electric lights in the class rooms of the main building and in halls, corridors, lobbies, stairs and exits leading from the assembly halls shall have separate circuits from the electric switch-board from those of the assembly hall.

(c) If electricity is not available such building shall be lighted by some approved means. The use of kerosene or fluid oil lamps is prohibited.

**Section 490.** (a) Every building of class IIb hereafter erected more than two (2) stories in height shall have at least one (1) tower fire escape constructed as required by this act. Such tower fire escape shall be located as far as practicable from each of the stairways required by this act, and shall be accessible from every part of every story without passing a stairway or an elevator unless the stairway or elevator is enclosed by a fire-resistive partition.

(b) There shall be an outside stairway constructed of iron or steel in an approved manner leading from the entrance to the tower fire escape on the topmost story, to the roof.

**Section 491.** (a) In every building of class IIb hereafter erected there shall be at least one (1) bulkhead located in the ceiling of the common hall of the top story. It shall be of a size not less than twenty-four (24) inches by thirty (30) inches, and shall be covered on the outside with metal; access thereto shall be by means of stairs, having risers not more than eight (8) inches high and treads not less than nine (9) inches wide, and a hand rail three (3) feet high.

(b) No bulkhead or scuttle shall have any lock on it or be otherwise securely fastened, but may be fastened on the inside by movable bolts or hooks. There shall be at least one (1) hand rail on the roof leading to the outside stairway from the tower fire escape which shall be constructed of iron or steel and capable of withstanding a lateral pressure of two hundred (200) pounds at any point along the rail.

(c) If the pitch of the roof exceeds one (1) foot rise in eight (8) feet there shall be a level platform or stairway at least three (3) feet wide leading from every bulkhead and scuttle to the outside stairway from the tower fire escape and such platform shall have hand rails on each side.

**Section 492.** (a) Buildings of class IIb hereafter erected shall be not more than four (4) stories and basement in height.

(b) All such buildings three (3) stories and basement or more in height shall be of fire-resistive construction.

(c) All such buildings not more than two (2) stories and basement in height may be of ordinary construction or mill construction.

(d) If not more than one (1) story and basement in height, and with a seating capacity of two hundred (200) or less, and where the first floor level is not more than eight (8) feet above grade it may be of frame construction, provided that it is not within thirty (30) feet of any other building.

Section 493. (a) Buildings of class IIb hereafter erected shall not occupy more than ninety (90) per cent. of a corner lot nor more than eighty (80) per cent. of an interior lot, the measurements being taken at the ground level.

(b) No wall containing windows for lighting or ventilation shall be placed nearer any opposite building, structure or lot line than thirty (30) feet, street and alley lines not included; provided that, such street or alley is at least thirty (30) feet in width.

Section 494. (a) In buildings of class IIb hereafter erected devoted to the purposes of museums, libraries and art galleries, the proportion of glass surface shall be not less than one (1) square foot of glass to each six (6) square feet of floor area. The proportion of glass surface for colleges, academies and seminaries shall be the same as is required for buildings of class IIa hereafter erected.

(b) Windows in colleges, academies and seminaries shall be placed in the exterior walls of the building, in the same manner as is provided for windows in buildings of class IIa hereafter erected. In lieu of windows in exterior walls, skylights and clear-story windows may be used to light museums, libraries and art galleries.

Section 495. Monumental stairways may be used in buildings of class IIb hereafter erected, but only when they are additional to the stairways required by this act for buildings of this class. They need not have intermediate hand rails.

Section 496. (a) Buildings of class IIb hereafter erected shall have at least one (1) general toilet room for men and one (1) general toilet room for women. Such toilet rooms shall be provided with at least two (2) water-closets and one (1) lavatory.

(b) Such buildings used as a college, academy, seminary or as a place of instruction, in which regular classes are held or any part thereof, shall be provided with at least one (1) toilet room for men and one (1) for women in each of which there shall be at least two (2) water-closets and one (1) lavatory. Urinals and additional water-closets shall be provided in the ratio required for buildings



of class IIa hereafter erected in proportion to the average daily attendance of students attending classes.

(c) Toilet rooms for men shall be marked "Men" and for women, "Women," and shall be maintained in a clean and sanitary condition.

(d) Such buildings shall be connected with a public water system and sewer system; or there shall be installed a private water system and sewer system that shall be satisfactory to the Local Board of Health or State Department of Health.

Section 497. (a) Every building of class IIb hereafter erected shall have at least one (1) two and one-half ( $2\frac{1}{2}$ ) gallon chemical hand fire extinguisher on every floor, and shall have at least one (1) on every floor for every fifty (50) feet of greatest dimension of the building.

(b) In all such buildings two (2) or more stories in height designed for the accommodation of three hundred (300) or more pupils there shall be at least one (1) standpipe constructed as required by this act, together with approved fire hose and connections as required by this act. Such hose shall be not more than fifty (50) feet in length. A sufficient number of such standpipes with fire hose attached shall be provided to enable a stream of water to be thrown on any part of any floor.

Section 498. (a) In buildings of class IIb hereafter erected, the location and position of all hand fire apparatus required by this act shall be determined by the Local or State Fire Marshal, and shall not be removed from that position except when actually in use or for purposes of instruction and inspection. When through, such apparatus shall be replaced in good working order. All hand fire extinguishers shall be fastened in position by a fine cord that may be easily broken, and such cord shall be sealed with a tag showing the date of sealing.

(b) Attached to the nozzle of all chemical hand fire extinguishers shall be a long needle or steel wire suitable for cleaning out the opening of the nozzle in case it should become clogged up.

Section 499. (a) It shall be the duty of the owner, agent or person in charge of buildings of class IIb hereafter erected to make an examination of the fire escapes of such building from the topmost story to the ground; to examine and operate all doors, windows and platforms leading to or from such fire escapes at least once each and every week that such building is used for such purposes; to examine all fire apparatus required by this act for buildings of this class; and to make a regular report to the Local or State Fire Marshal at least three times a year showing all such inspections made, the condition in which the fire apparatus, fire escapes, doors, win-

dows, and platforms were found at the time of the inspection, and whether they comply with the requirements of this act.

(b) The duties herein imposed by this section shall not be held to relieve the Local or State Fire Marshal, or the State Building Commissioner or Chief Building Inspector from any duties prescribed by law.

#### **Special Requirements for Buildings of Class IIb Prior erected— Colleges, Etc.**

Section 500. In class II shall be included buildings used for the purposes of education and culture.

(a) Primary, Grammar or High School, and all Buildings or portions thereof used for school purposes by pupils or students averaging not over eighteen (18) years of age.

(b) Colleges, academies, seminaries, libraries, museums, art galleries and all school buildings not included under class IIa.

Section 501. (a) The following special requirements for buildings of class IIb prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 502. All buildings of class IIb prior erected shall be so designed and constructed that the floors and treads and landings of stairways shall safely sustain in addition to the weight of the floor and stairway construction, partitions, permanent fixtures and mechanisms, a live load of one hundred (100) pounds on every square foot of surface. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 503. (a) No room in any basement or cellar of buildings of class IIb prior erected shall be used for school purposes; except that, rooms for Domestic Science, Manual Training or Recreation may be placed in the basement, provided the same are properly lighted, heated and ventilated.

(b) If areaways are used the width of the areaway shall be not less than the distance from the lowest window sill to grade.

Section 504. (a) Buildings of class IIb prior erected shall be ventilated by an approved mechanical system, except as herein otherwise provided, which will supply not less than one thousand five hundred (1,500) cubic feet of fresh air per hour to each person designed to be accommodated.

(b) Where the capacity is three hundred (300) or less, and where the capacity is greater than three hundred (300) during seasons when artificial heat is not needed, ventilation may be effected by



windows; but the aggregate area of the windows when open, measured from the top to a line seven (7) feet above the floor, shall be not less than one-quarter ( $\frac{1}{4}$ ) of a square foot for each person for whom accommodation is provided.

(c) The number, size and location of the air inlets and discharging ducts shall be such as to distribute the incoming air and remove the vitiated air evenly without exposing any person to direct draft.

(d) The fresh air supply shall be taken from outside the building, and no vitiated air, or air from basements, cellars, or other rooms shall be used for ventilating purposes, and such air shall be filtered when so ordered by the Local Board of Health or State Department of Health.

(e) Such buildings shall be thoroughly ventilated immediately before and immediately after each occupation, and the ventilating system shall be kept in constant operation during the occupation.

(f) Blowers used to distribute air through ventilating pipes, ducts or flues shall be electrically operated, and shall be provided with fusible links to stop the blowers automatically in case of fire. Such fusible links shall be connected with an automatic cut-out at the motor, and shall be located subject to the approval of the Local or State Fire Marshal.

(g) Dampers shall be provided at the intake of all ventilating pipes, ducts or flues, and shall be held open by a combustible core.

(h) Exhausted or vitiated air shall be carried to a point at least two (2) feet above the roof.

Section 505. Doors used as a means of egress from any building of class IIb prior erected shall open outward and shall not be locked or fastened during the entire time that the building is occupied for school purposes or open to the public. Doors shall not be provided with dead latches or locks operated by springs, or by bolts that are held in an unlocked position by springs or friction catches. Such doors shall be of approved design and construction and so constructed that when they are unlocked they cannot become locked accidentally or by any person except an authorized person.

Section 506. (a) Every school and class room in buildings of class IIb prior erected shall have at least sixteen (16) square feet of floor area per pupil.

Section 507. Aisles in class and school rooms in buildings of class IIb prior erected shall have a uniform width of not less than two (2) feet six inches. All groups of seats shall be so arranged that there shall be an aisle on each side.

Section 508. Seats, chairs and desks placed in class, recitation and study rooms in buildings of class IIb prior erected shall be se-

curely fastened to the floor; except in rooms seating less than twenty (20) persons, and where the nature of the occupancy will not permit, such as rooms used for teaching of drawing. Desks and chairs used by the teacher may be portable.

Section 509. (a) Assembly Halls located in buildings of class IIb prior erected shall be subject to all the provisions relating to buildings of class Ic prior erected.

(b) Where electric light current is not available small portable acetylene tanks may be used for exhibiting stereopticon and motion pictures subject to the approval of the Local or State Fire Marshal. Other forms of lighting made by the compounding of gases, commonly known as calcium lights, are prohibited.

Section 510. (a) Furnaces, hot water heating boilers and low pressure steam boilers may be located in buildings of class IIb prior erected; provided that, the heating apparatus, fuel room and firing room are included in a room the walls and ceiling of which are composed of approved fire-resistive materials; and provided further that, all openings, into the same from the other parts of the building are covered by approved self-closing hinged, fire doors.

(b) No such room shall be located under any lobby, exit, stairway or common hall.

(c) No cast iron boiler operated at more than ten (10) pounds pressure or steel boiler operated at more than thirty-five (35) pounds pressure shall be located within the main walls of any such building.

(d) All piping leading from the heater room to the risers shall be covered with an approved pipe covering at least one (1) inch in thickness.

Section 511. (a) Every portion of buildings of class IIb prior erected devoted to the uses or accommodation of the public and outlets therefrom leading to the streets, including the open courts and corridors, stairways and exits, shall be well and properly lighted during the entire time it is in use, and shall be kept lighted until the pupils and the audience have left the premises.

(b) All electric lights in the class rooms of the main building and in halls, corridors, lobbies, stairs and exits leading from the assembly halls, shall have separate circuits from the electric switch-board from those of the assembly hall.

(c) If electricity is not available such building shall be lighted by some approved means. The use of kerosene or fluid oil lamps is prohibited.

Section 512. (a) In buildings of class IIb prior erected there shall be at least two (2) stairways on opposite sides of the building



or as far apart as practicable extending from the top floor to the ground. At each floor landing such stairways shall be separated from the rest of the building by fire-resistive partitions.

(b) Sufficient stairways shall be provided to accommodate the maximum number of persons which the building is designed to accommodate.

Section 513. (a) Buildings of class IIb prior erected shall have at least one (1) two and one-half ( $2\frac{1}{2}$ ) gallon chemical hand fire extinguisher on every floor, and shall have at least one (1) on every floor for every fifty (50) feet of greatest dimension of the building.

(b) In such buildings two (2) or more stories in height there shall be at least one (1) standpipe constructed as required by this act, together with approved fire hose and connections as required by this act. Such hose shall be not more than fifty (50) feet in length. A sufficient number of such standpipes with approved fire hose attached shall be provided to enable a stream of water to be thrown on any part of any floor.

Section 514. In buildings of class IIb prior erected each school room shall be equipped with an electric alarm bell which can be operated from any story or from the office or the heater room. In addition there shall be one (1) hand operated gong located in the main hall or corridor of the first story capable of being heard throughout the building.

Section 515. (a) In buildings of class IIb prior erected the location and position of all hand fire apparatus required by this act shall be determined by the Local or State Fire Marshal, and shall not be removed from that position except when actually in use or for purposes of instruction and inspection. When through, such apparatus shall be replaced in good working order. All hand fire extinguishers shall be fastened in position by a fine cord that may be easily broken, and such cord shall be sealed with a tag showing the date of sealing.

(b) Attached to the nozzle of all chemical hand fire extinguishers shall be a long needle or steel wire suitable for cleaning out the opening of the nozzle in case it should become clogged up.

Section 516. (a) In buildings of class IIb prior erected there shall be at least one (1) bulkhead located in the ceiling of the main hall of the top floor. It shall be of a size not less than twenty-four (24) inches by thirty (30) inches, and shall be covered on the outside with metal; access thereto shall be by means of stairs, having risers not more than eight (8) inches high and treads not less than nine (9) inches wide, and a hand rail three (3) feet high.

(b) No bulkhead or scuttle shall have any lock on it or be otherwise securely fastened, but may be fastened on the inside by movable bolts or hooks. There shall be at least one (1) hand rail on the roof leading to the outside stairway from the fire escape which shall be constructed of iron or steel and capable of withstanding a lateral pressure of two hundred (200) pounds at any point along the rail.

(c) If the pitch of the roof exceeds one (1) foot rise in eight (8) inches there shall be a level platform or stairway at least three (3) feet wide leading from every bulkhead and scuttle to the outside stairway from the fire escape and such platform shall have hand rails on each side.

Section 517. (a) Every building of class IIb prior erected more than two (2) stories in height shall have at least one (1) fire escape constructed as required by this act. Such fire escape shall be located as far as practicable from each of the stairways required by this act, and shall be accessible from every part of every story without passing a stairway or an elevator unless the stairway or elevator is enclosed by a fire-resistive partition.

(b) There shall be an outside stairway or goose neck ladder constructed of iron or steel in an approved manner leading from the landing of the fire escape on the topmost story, to the roof.

Section 518. (a) It shall be the duty of the owner, agent or person in charge of buildings of class IIb prior erected to make an examination of the fire escapes of such building from the topmost story to the ground; to examine and operate all doors, windows and platforms leading to or from such fire escapes at least once each and every week that such building is used for such purposes; to examine all fire apparatus required by this act for buildings of this class; and to make a regular report to the Local or State Fire Marshal at least three (3) times a year showing all such inspections made, the condition in which the fire apparatus, fire escapes, doors, windows and platforms were found at the time of the inspection, and whether they comply with the requirements of this act.

(b) The duties herein imposed by this section shall not be held to relieve the Local or State Fire Marshal, or the State Building Commissioner or Chief Building Inspector from any duties prescribed by law.

Section 519. (a) All buildings of class IIb prior erected shall have at least one (1) general toilet room for men and one (1) general toilet room for women. Such toilet rooms shall be provided with at least two (2) water-closets and one lavatory.

(b) Such buildings used as a college, academy, seminary or as a place of instruction, in which regular classes are held or any part



thereof shall be provided with at least one (1) toilet room for men and one (1) for women in each of which there shall be at least two (2) water-closets and one (1) lavatory. Urinals and additional water-closets shall be provided in the ratio required for buildings of class IIb hereafter erected in proportion to the average daily attendance of students attending classes.

(c) Toilet rooms for men shall be marked "Men" and for women, "Women," and shall be maintained in a clean and sanitary condition.

(d) Such buildings shall be connected with a public water system and sewer system; or there shall be installed a private water system and sewer system that shall be satisfactory to the Local Board of Health or State Department of Health.

## ARTICLE IX.

### Class III Buildings.

#### Special Requirements for Buildings of Class IIIa Hereafter Erected. —Tenement and Apartment Houses.

Section 520. In class III shall be included buildings in which people are lodged and housed.

(a) Tenement and Apartment Houses.

(b) Hotels, Apartment Hotels and Club Houses.

(c) Dwellings.

(d) Lodging Houses and Rooming Houses.

Section 521. (a) The following special requirements for buildings of class IIIa hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 522. Buildings of class IIIa hereafter erected shall be so designed and constructed that the floors, treads and landings of stairways shall safely sustain in addition to the weight of the floor and stairways construction, partitions, permanent fixtures and mechanisms that may be set upon them a live load of fifty (50) pounds on every square foot of surface. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 523. (a) Buildings of class IIIa hereafter erected shall not be occupied in whole or in part for human habitation until the issuance by the State Building Commissioner or Chief Building Inspector of a certificate that the said building conforms to the requirements of this act, nor until the issuance of a certificate by the Local Board of Health or State Department of Health that said building conforms to the requirements of this act relative to light,

ventilation, plumbing, drainage and sanitation. Within five (5) days from date of application for any certificate above mentioned, such certificate shall be issued, or the official concerned shall state in writing his reasons for his refusal to issue said certificate.

(b) The certificate above referred to may be issued in the case of any such building which comprises more than three (3) apartments so as to allow the occupation of any section of the building which is completed from the cellar or basement to the roof in advance of the completion of the other portions of the building.

(c) When the outer walls have been erected so as to outline the position of courts and shafts required for the lighting and ventilating of living rooms, the owner of the building or his representative shall be entitled, upon application in writing, to an inspection of the same, and if the work to that point is in compliance with the provisions of this act regarding the size of courts and shafts, and the location of the building and with the plans and specifications on file, to a certificate setting forth those facts.

(d) When the work of constructing partitions has advanced to a degree in any story that the rooms in that story are determined in their dimensions, the owner or his representative shall be entitled to an inspection, and if the rooms thus outlined conform in their dimensions to the plans filed and to the requirements of this act, to a certificate stating that fact.

(e) If any building of this class is occupied as a place of habitation in any of its parts in violation of this section, it shall forthwith be subject to notice from the State Building Commissioner or Chief Building Inspector or from the Local Board of Health or State Department of Health, and shall be vacated upon such notice and shall not again be occupied until made to conform with the provisions of this act nor until after the issuance of the certificates required in this section.

Section 524. All plans for the erection or construction of buildings of class IIIa hereafter erected, and all plans for the installation of heating or ventilating apparatus, lighting system, plumbing, fixtures, sinks or cesspools, besides being submitted to the State Building Commissioner or Chief Building Inspector, shall be submitted to the Local Board of Health or State Department of Health for its approval of said plans, and of the sanitary conditions surrounding the ground over which the proposed building is to be erected; and no permit for the erection or construction of any such building shall be issued until such approval has been obtained and endorsed on the plans.

Section 525. (a) At the time of applying for a permit for the erection of, alteration of, addition to, or moving of any building of



class IIIa hereafter erected, or for the erection, alteration, adding to, or moving of, any building onto a lot upon which a building of class IIIa hereafter erected stands, the applicant shall submit to the State Building Commissioner or Chief Building Inspector a plan of the lot, showing the location and dimensions of the same, the relative position of the lot in reference to the nearest streets and alleys, and the portion to be occupied by the proposed building or by the building to be altered or added to or by the building to be moved thereon; also the position of any other building or building that may be on the lot.

(b) The measurements shall in all cases be taken at the ground level.

Section 526. (a) Whenever it is desired to change the use of any building of any other class prior erected or converted to the uses or purposes of class IIIa, the owner shall notify the State Building Commissioner or Chief Building Inspector and the Local Board of Health or State Department of Health and shall submit to such officer or officers, as the case may be, a statement in writing describing the building, the uses of which he proposes to change, its street number, its present use, and giving such further information as such officer or officers, as the case may be, may require. It shall thereupon become the duty of such officer or officers as the case may be, to immediately make an inspection and ascertain if such building meets with the requirements of this act relating to buildings of class IIIa hereafter erected.

(b) If upon inspection the State Building Commissioner or Chief Building Inspector and the Local Board of Health or State Department of Health find that such building complies with all the requirements relating to buildings of class IIIa hereafter erected they shall then issue a permit authorizing the use of such building for the purposes of class IIIa, and no such building shall be occupied for such purposes until such a permit shall be first had and obtained.

(c) When a permit has been issued under the provisions of this section, it shall be the duty of the owner or agent of such building before occupying the same for the purpose for which the permit is issued, to post and permanently keep such permit in a conspicuous place in the principal corridor of the building near the entrance.

Section 527. (a) Buildings of class IIIa hereafter erected, three (3) stories or more in height shall be of fire-resistive construction.

(b) Such buildings not more than two (2) stories in height may be of mill construction or ordinary construction.

(c) Such buildings not more than one (1) story in height may be of frame construction.

Section 528. (a) Buildings of class IIIa hereafter erected shall be made rat proof in the following manner; the space usually left open between the under side of the floor of the first floor and the top of the foundation wall and between the joists set on the foundation wall, and the space between the studdings to a height of four (4) inches above the first and second story floor levels, shall be filled in compactly with brick, stone, cement, concrete or some other approved substance.

(b) If fire stops are provided in such buildings they shall be deemed to comply with the provisions of this section.

(c) There shall be no opening in the ceiling of the cellar or basement which may lead into concealed spaces in the walls or partitions above.

Section 529. In buildings of class IIIa hereafter erected no wall containing windows shall be placed opposite any other building, structure, or lot line nearer than eight (8) feet.

Section 530. The walls of bay windows, courts and vent shafts of buildings of class IIIa hereafter erected, except those which are permitted to be of frame construction, shall be built of approved fire-resistive materials.

Section 531. Buildings of class IIIa hereafter erected shall have either a basement or a cellar at least eight (8) feet deep, and the foundation walls of all such buildings shall extend to a distance of at least eight (8) feet below the mean surface level of the ground.

Section 532. Every basement or cellar of buildings of class IIIa hereafter erected shall have a floor of cement or concrete laid so as to be impervious to water not less than four (4) inches in thickness laid on not less than six (6) inches of sand, cinders, gravel, crushed stone or other approved material.

Section 533. In the floors and walls of every building of class IIIa hereafter erected there shall be some approved sound proofing material installed in an approved manner.

Section 534. (a) Buildings of class IIIa hereafter erected shall not be more than one and one-half ( $1\frac{1}{2}$ ) times the widest street measured from curb to curb upon which the building faces or has its principal entrance; nor shall be more than five (5) stories in height.

(b) In estimating the height of such building, the distance the building sets back from the curb line may be added to the width of the street.

Section 535. Buildings of class IIIa hereafter erected shall be so located upon the lot that there shall be a yard at least eight (8)



feet in depth, and no other building shall be erected on such lot in such a manner as to reduce the depth of such yard.

Section 536. (a) Buildings of class IIIa hereafter erected shall not occupy more than ninety (90) per cent. of a corner lot, or more than seventy (70) per cent. of an interior lot, provided that the space occupied by outside fire escapes projecting not more than four (4) feet shall not be deemed a part of the lot occupied.

(b) For the purposes of this section the measurements shall be taken at the ground level; and the unoccupied percentage of the lot shall be free and unobstructed from the ground to the sky, except for the necessary fire escapes required by this act.

Section 537. Buildings of class IIIa hereafter erected shall not hereafter be enlarged or the lot on which they stand be diminished so that a greater percentage of the lot shall be occupied by buildings or structures other than as permitted under the provisions of this act; provided that the space occupied by fire escapes constructed as required by this act shall not be deemed a part of the lot occupied.

Section 538. (a) Buildings of class IIIa hereafter erected may be erected in the rear of other buildings, provided:

1st. That the lot upon which it stands shall be bounded by at least a street on one side and an alley on the opposite side not less than twenty (20) feet in width;

2nd. That the distance between buildings on the same lot shall be at least sixteen (16) feet;

3d. That the rear extremity of any such building erected facing or having its principal entrance on the street shall not approach nearer the building line of the alley than sixteen (16) feet, and; that the rear extremity of any such building erected facing or having its principal entrance on the alley shall not approach nearer the building line of the street than sixteen (16) feet, the minimum depth of the yard. Where any such building is built back from the building line it shall have an unobstructed street or alley frontage on the street or alley upon which it faces and no other building shall hereafter be erected between the front of such street or alley and the street upon which it faces.

(b) In no case shall the aggregate area of ground space occupied by buildings on a lot be greater than is permitted by this act for one building of class IIIa hereafter erected.

(c) The space between the buildings shall be free and unobstructed from the ground to the sky, except for necessary fire escapes constructed according to the provisions of this act.

Section 539. (a) Buildings of class IIIa hereafter erected more than three (3) stories in height shall have at least one (1) tower fire escape constructed as required by this act. Such tower fire escape shall be located as far as practicable from each of the stairways required by this act, and shall be accessible from every apartment in every story without passing a stairway, unless the stairway is enclosed by a fire-resistive partition.

(b) There shall be an outside stairway constructed of iron or steel in an approved manner leading from the entrance to the tower fire escape on the topmost story to the roof.

Section 540. (a) In buildings of class IIIa hereafter erected there shall be at least one (1) bulkhead located in the ceiling of the common hall of the top story. It shall be of a size not less than twenty-four (24) inches by thirty (30) inches, and shall be covered on the outside with metal; access thereto shall be by means of stairs, having risers not more than eight (8) inches high and treads not less than nine (9) inches wide, and a hand rail three (3) feet high.

(b) No bulkhead or scuttle shall have any lock on it or be otherwise securely fastened, but may be fastened on the inside by movable bolts or hooks. There shall be at least one (1) hand rail on the roof leading to the outside stairway from the tower fire escape which shall be constructed of iron or steel and capable of withstanding a lateral pressure of two hundred (200) pounds at any point along the rail.

(c) If the pitch of the roof exceeds one (1) foot rise in eight (8) feet there shall be a level platform or stairway at least three (3) feet wide leading from every bulkhead and scuttle to the outside stairway from the tower fire escape and such platform shall have hand rails on each side.

Section 541. In buildings of class IIIa hereafter erected of other than fire-resistive construction, in all walls where wooden furring is used the two (2) courses of brick below the top of the floor beam shall project one and one-half ( $1\frac{1}{2}$ ) inches beyond the furring and shall be levelled off with plaster to the top of the beams after the beams are in place to form a fire stop. If concrete or other materials are used for walls an equivalent projection shall be provided.

Section 542. (a) Buildings of class IIIa hereafter erected shall have at least two (2) stairways, one of which shall extend from the ground to a bulkhead and the other shall extend from the ground to the topmost story. Such stairways shall be at least four (4) feet wide and shall be located as far apart as practicable, but no portion of the one (1) stairway shall be nearer than twenty (20) feet to any portion of any other stairway. At least one (1) of such stairways shall be an interior stairway.



(b) In such buildings containing over thirty-six (36) apartments there shall be an additional stairway for every additional thirty-six (36) apartments or fractional part thereof. All such additional stairways may be tower fire escapes, provided that they are constructed and located as required for other tower fire escapes for buildings of this class.

(c) Stairways shall have an entrance at the first story to a street or alley, or to yard or court which opens into a street or alley; risers shall be not more than eight (8) inches high and treads not less than nine (9) inches wide.

(d) Winding or circular stairways are prohibited.

(e) No stairway shall extend for a greater distance than from floor to floor without a level landing at least ten (10) feet long.

(f) Stairways and walls and ceilings around stairways shall be of approved fire-resistive materials; except that the treads may be of wood covered on the underside with an approved fire-resistive material. Hand rails may be of wood.

Section 543. In buildings of class IIIa hereafter erected all stairways leading from the first story to the cellar or basement shall be entirely enclosed with walls of approved fire-resistive materials and shall be equipped with approved self-closing hinged fire doors at both the top and the bottom. Such doors shall open onto a landing at least four (4) feet in length, and shall be kept closed at all times when not in use.

Section 544. No closet of any kind shall be constructed under any stairway in buildings of class IIIa hereafter erected, but such space shall be left entirely open and kept clear and free from any incumbrance.

Section 545. In buildings of class IIIa hereafter erected all tower fire escapes and the outside stairways to the roof shall be kept in good order and repair, and no obstruction of any kind shall be placed in the tower or in any of its doorways or in the passageways leading thereto, and it shall be the duty of the State Building Commissioner or Chief Building Inspector, and the Local or State Fire Marshal, to confiscate any property found in such tower fire escapes.

Section 546. Every main entrance hall in buildings of class IIIa hereafter erected shall be at least five (5) feet wide in the clear from the entrance up to the stairway; alongside and beyond the stairway it shall be at least three (3) feet wide in the clear.

Section 547. When wainscoting is hereafter placed in buildings of class IIIa hereafter erected, or any building in process of alteration into such a building, the surface of the wall or partition be-

hind such wainscoting shall be plastered down to the floor line, and any intervening space between said plastering and said wainscoting shall be filled in solidly with approved fire-resistive materials.

Section 548. (a) In buildings of class IIIa hereafter erected, every common hall shall have at each story at least one (1) window opening directly upon the street or upon a yard or court. Such window shall be at the end of said hall with the plane of the window at right angles to the axis of the hall. Any part of a common hall which is shut off from any other part of such hall by a door shall be deemed a separate hall within the meaning of this section. Such common hall shall be adequately lighted in all its parts.

(b) One (1) at least of such windows provided in paragraph (a) shall be at least two (2) feet six (6) inches high measured between stop beads. On the top story, in lieu of such window, there may be a ventilating skylight having a minimum opening of forty (40) square inches; or such skylight may have either fixed or movable louvres, providing there is a ventilating opening of forty (40) square inches.

(c) Stair wells are prohibited.

Section 549. (a) In buildings of class IIIa hereafter erected there shall be at least one (1) opening onto a smoke flue in every apartment.

(b) Where there is not more than one (1) opening onto a flue throughout its entire length the flue area shall be not less than fifty (50) square inches; where there is more than one (1) opening onto a flue throughout its entire length the flue area shall be not less than eighty (80) square inches. Ventilating flues shall serve only one (1) story, and shall not be extended to any other story except the story they are designed to serve.

Section 550. (a) Inner courts of buildings of class IIIa hereafter erected shall have a least dimension of not less than sixteen (16) feet.

(b) Where lot line courts of buildings of adjoining lots are opposite each other and for their whole length, the least dimension of each lot line court shall be not less than eight (8) feet. There shall be no fence or partition in such courts for all or any portion of their height.

(c) Outer courts shall have a least dimension of not less than sixteen (16) feet.

(d) Every inner court and every lot line court shall be connected directly with a street, alley, yard or outer court by a passageway extending from the ground level of such street, alley, yard or outer court to the ground level of such inner court and lot line court.



Such passageway shall be at least four (4) feet wide and eight (8) feet high. There shall be no steps or risers in such passageway, and no rise of more than one (1) foot in ten (10) feet. Such passageways shall be enclosed by walls of approved fire-resistive material at least four (4) inches thick, and such passageway and such inner and lot line court shall be kept free of obstruction of any kind, including snow, ice and waste material.

(e) Such passageway may be provided at the outer side with a door which shall open outward. Such door shall not be locked or fastened in any manner but may be self-closing.

(f) Courts shall be open and unobstructed from the ground to the sky, and shall not be covered with a skylight or other covering.

(h) Corners of courts may be cut off by walls containing windows, provided such walls are not more than four (4) feet in length. In such case the least dimension of courts as provided in this section shall be estimated between the outer faces of the main walls of the courts.

Section 551: (a) Vent shafts of buildings of class IIIa hereafter erected shall have a least dimension of not less than five (5) feet.

(b) Every opening onto a vent shaft, with the exception of the passageway to the street, alley, yard or court herein required, shall be covered by an iron or steel grille.

(c) There shall be an open passageway leading from every vent shaft to a street, alley, yard or court. Such passageway shall be constructed in the manner required for passageways from inner and lot line courts, with the exception that it need be but two (2) feet six (6) inches wide by six (6) feet high.

Section 552. The bottom of all shafts, courts, and yards of buildings of class IIIa hereafter erected shall be provided with efficient drainage and graded and paved with cement or concrete.

Section 553. (a) Where porches are constructed in courts of buildings of class IIIa hereafter erected, the amount of area of unobstructed space in such courts shall be exclusive of space occupied by stairs and porches.

(b) No rear porch shall be constructed in such a way that the buildings on the lot with all their porches shall occupy a greater portion of the lot than is permitted by this act. The porch shall in every case be considered a part of the building.

(c) Where porches are permitted to be of combustible materials they shall be not more than eight (8) feet in width.

Section 554. (a) Living rooms in buildings of class IIIa hereafter erected shall be of the following minimum sizes: In each

apartment there shall be at least one (1) such room containing not less than one hundred and fifty (150) square feet of floor area, and every other such room shall contain at least one hundred (100) square feet of floor area. Each such room shall be in every part not less than nine (9) feet high from floor covering or flooring to the finished ceiling.

(b) Every living room shall have a window or windows equal to at least one-tenth (1-10) of its floor area but never less than twelve (12) square feet, opening on a street, alley, yard or court.

(c) Living rooms in the attic shall be plastered or sealed above and on all sides. Living rooms in the topmost story shall be plastered or sealed above.

Section 555. (a) In buildings of class IIIa hereafter erected an alcove in any room shall be separately lighted and ventilated as provided in this act for rooms and shall be not less than ninety (90) square feet in area. No part of any such room shall be enclosed or subdivided at any time, wholly or in part, by a fixed or movable partition or other contrivance or device, unless such part of the room so enclosed or subdivided shall contain a separate window as herein required and shall have a floor area of not less than one hundred (100) square feet.

(b) This section shall not be construed as prohibiting the erection of pilasters or other decorative members projecting not more than eighteen (18) inches from the plane of the wall of a living room.

Section 556. In buildings of class IIIa hereafter erected each living room, including bed room and at least one (1) water-closet compartment, shall open onto a private or common hall.

Section 557. No room in buildings of class IIIa hereafter erected shall be constructed, altered, converted or occupied as a living room unless it complies with all the provisions of this act.

Section 558. In buildings of class IIIa hereafter erected living rooms will not be permitted in the cellar.

(b) There may be living rooms in a basement provided they are used only for kitchen or dining room purposes. No living room in a basement shall be used for sleeping purposes.

Section 559. In buildings of class IIIa hereafter erected there shall be an entrance to every cellar and basement from the outside of the building.

Section 560. (a) In buildings of class IIIa hereafter erected shops or stores dealing in paint, oil or other inflammable materials are prohibited.



(b) Shops or stores dealing in materials that are not easily inflammable will be permitted provided that there is no communication between such shops and stores on the inside of the building with the other parts of the building; except that in such building of fire-resistive construction, baking establishments will be permitted with a dumbwaiter opening into the bakery below and the store above, provided that it is entirely enclosed in a shaft constructed with walls of approved fire-resistive materials. No other openings will be permitted and the doors shall be approved fire doors so arranged that when one (1) is open, or partly open, the other will be closed.

Section 561. (a) Furnaces, hot water heating boilers and low pressure steam boilers may be located in buildings of class IIIa hereafter erected, provided that the heating apparatus, fuel room and firing room are included in a room the walls and ceiling of which are composed of approved fire-resistive materials, and provided that all openings into the same from the other parts of the building are covered by approved self-closing hinged fire doors.

(b) No such room shall be located under any lobby, exit, stairway or common hall.

(c) No cast iron boiler operated at more than ten (10) pounds pressure or steel boiler operated at more than thirty-five (35) pounds pressure shall be located within the main walls of any such building.

(d) All piping leading from the heater room to the risers shall be covered with an approved pipe covering at least one (1) inch in thickness.

Section 562. (a) There shall be in each apartment of buildings of class IIIa hereafter erected at least one (1) kitchen sink with running water.

(b) The space underneath such sink shall be left entirely open, and no woodwork of any kind shall be permitted around such sink.

Section 563. (a) Buildings of class IIIa hereafter erected fronting upon or within one hundred (100) feet of any street having either a water main or both shall be provided with a plumbing system and connection with such water main or sewer or both, and until such time no such building shall be occupied unless it has a private sewer system and water supply which shall be satisfactory to the Local Board of Health or State Department of Health. But in no such case shall a privy vault be maintained upon the premises.

(b) Should any such building not be within one hundred (100) feet of any street having either a water main or sewer or both, and should such water main or sewer or both subsequently be installed or extended to within one hundred (100) feet of such building then *such building* shall immediately be provided with a plumbing sys-

tem and a connection with such water main or sewer or both, and until such connection has been made no such building shall be occupied for the purposes of this class.

Section 564. (a) In buildings of class IIIa hereafter erected there shall be a separate water-closet in a separate compartment within each apartment. Each such water-closet shall be placed in a compartment completely separated from every other water-closet; such compartment shall be not less than three (3) feet wide, and shall be enclosed with plastered partitions which shall extend to the ceiling. Nothing, however, in this paragraph shall be construed to prohibit a water-closet, bath and lavatory being in the same compartment.

(b) Every such compartment shall have a window opening directly upon a street, alley, yard, court or vent shaft.

(c) Every water-closet compartment hereafter placed in any such building shall be provided with artificial means of lighting the same in addition to this window.

(d) The floor of every such water-closet compartment shall be made water-proof with asphalt, tile, stone or some other non-absorbent water-proof material; and such water-proofing shall extend on the walls at least six (6) inches above the floor. Drip trays are prohibited. No water-closet fixtures shall be enclosed with wood-work.

Section 565. In buildings of class IIIa hereafter erected all plumbing pipes shall be exposed except where passing through floors, walls or partitions. Where plumbing or other pipes pass through floors, walls or partitions the openings around such pipes shall be sealed or made air tight with plaster or iron ferrules.

Section 566. (a) Whenever cesspools are permitted under this act, for buildings of class IIIa hereafter erected they shall be placed in a yard and shall be covered with an iron cover, flush with the surface of the ground in such a way that there shall be convenient access to such cesspool.

(b) Where any such cesspool is located in any place or in any manner that renders it a menace to the lives and health of persons, the State Building Commissioner or Chief Building Inspector or the Local Board of Health or State Department of Health may order such cesspool removed or its location changed.

Section 567. No part of buildings of class IIIa hereafter erected shall be used by the tenant, members of his family, or others, for manufacturing purposes, or for other than domestic work, without a permit from the Local Board of Health or State Department of Health, and the permit, when issued, shall expire not later than



the calendar year for which it is issued. No such permit shall be granted if such use would create dust, foul odors, or undue noise, liable to affect injuriously the health or comfort of the tenants, occupants, or neighbors, or for any reason would affect injuriously the health and safety of those engaged in such manufacturing or other work. The permit may be revoked by the Local Board of Health or State Department of Health at any time, for the same reason for which it may refuse to issue same. No such room or rooms, when used for manufacturing purposes, shall be occupied at any one time by more persons than would give to each occupant at least four hundred (400) cubic feet of air space.

Section 568. Buildings of class IIIa hereafter erected occupied by six (6) or more families, in which the owner or conductor does not reside, there shall be a janitor, housekeeper, or other responsible person, who shall reside in said house and have charge of the same, if the State Building Commissioner or Chief Building Inspector shall so require.

Section 569. In buildings of class IIIa hereafter erected, an approved light shall be kept burning by the owner in the common hall near the stairs of the entrance story and of the second story above the entrance story every night from sunset to sunrise throughout the year, and in all other stories from sunset until ten (10) o'clock in the evening.

Section 570. No water-closet shall be maintained in the cellar of buildings of class IIIa hereafter erected.

Section 571. The cellar walls and ceilings of buildings of class IIIa hereafter erected shall be thoroughly whitewashed or painted a light color by the owner and shall be so maintained. Such white-wash or paint shall be renewed whenever necessary as may be required by the Local Board of Health or State Department of Health.

Section 572. In buildings of class IIIa hereafter erected the floor covering or flooring or other surface beneath and around sinks shall be maintained in good order and repair and if of wood shall be kept well painted.

Section 573. Buildings of class IIIa hereafter erected and all the parts thereof shall be kept in good repair and the roof shall be kept so as not to leak, and all rain water shall be so drained and conveyed therefrom as to prevent its dripping on to the ground or causing dampness in the walls, ceilings, yards or areaways of such building or of the property adjoining.

Section 574. (a) Buildings of class IIIa hereafter erected and every part thereof shall be kept clean and free from any accumula-

tion of dirt, filth and garbage or other matter in or on the same, or in the yards, courts, passages, areaways or alleys connected with or belonging to the same. The owner or agent shall thoroughly cleanse all the rooms, passages, stairs, floor covering or flooring, windows, doors, walls, ceilings, water-closets, cesspools, drains, halls, cellars, roofs and all other parts to the satisfaction of the Local Board of Health or State Department of Health, and shall keep the said parts in a cleanly condition at all times.

(b) The lessee or tenant of any part of a building of class IIIa hereafter erected shall keep the premises leased or occupied by him in a cleanly condition at all times, and no person shall put or cast any filth, refuse, or perishable matter into any shaft, court, areaway or yard of such building.

Section 575. The walls of all courts of buildings of class IIIa hereafter erected, unless built of a light color brick or stone, shall be thoroughly whitewashed by the owner or shall be painted a light color by him, and shall be maintained. Such whitewash or paint shall be renewed whenever necessary as may be required by the Local Board of Health or State Department of Health.

Section 576. No wall paper shall be placed upon a wall or ceiling in buildings of class IIIa hereafter erected, unless all wall paper shall be first removed therefrom and said wall and ceiling thoroughly cleansed.

Section 577. The owner, tenant, lessee or agent of buildings of class IIIa hereafter erected shall provide approved tight receptacles for ashes, rubbish, garbage, refuse and other matter and metal receptacles for garbage. Interior chutes or shafts leading to any such receptacles are prohibited.

Section 578. (a) No horse, cow, calf, swine, sheep, goat, pigeons, chickens or other fowl shall be kept in buildings of class IIIa hereafter erected or on the same lot or on the premises thereof.

(b) No such building or the lot or premises thereof shall be used for a lodging house, nor as a place of public assemblage.

Section 579. (a) No building of class IIIa hereafter erected nor any part thereof, nor of the lot upon which it is situated, shall be used as a place of storage, keeping or handling of any combustible article, except as otherwise herein provided.

(b) No such building or any part thereof, nor of the lot upon which it is situated, shall be used as a place of storage, keeping or handling of any article dangerous or detrimental to life or health, nor for the storage, keeping or handling of feed, hay, straw, excelsior, cotton, paper-stock, feathers or rags.



Section 580. (a) No room in buildings of Class IIIa hereafter erected when used for sleeping purposes shall be occupied or be permitted to be occupied at any one time by more occupants than would give to each occupant thereof who is over twelve (12) years of age at least four hundred (400) cubic feet of air space and to each occupant twelve (12) years of age or under at least two hundred (200) cubic feet of air space.

(b) No owner, lessee, tenant or conductor of any such building, and no tenant or lessee of any room or apartment therein shall permit any room to be occupied in violation of this section.

(c) Whenever any room in such building is found to be overcrowded so that there shall not be the amount of air space for each occupant required by this section it shall be the duty of the Local Board of Health or State Department of Health to place a tin placard on the door of such room stating the number of occupants the room may accommodate, and such room shall not be occupied by more than the number prescribed on such placard.

Section 581. (a) Whenever any building of Class IIIa hereafter erected or any part thereof is unfit for human habitation, or dangerous to life or health by reason of want of repairs, or of defects in the drainage, plumbing, ventilation or sanitation, or by reason of the existence on the premises of a nuisance likely to cause sickness among the occupants of said building, the Local Board of Health or State Department of Health may issue an order requiring all persons therein to vacate such house, or part thereof, within not less than twenty-four (24) hours nor more than ten (10) days. The reasons for such order shall be fully stated in the order.

(b) The Local Board of Health or State Department of Health is hereby given summary power to enforce such order and any expense necessarily incurred by the Local Board of Health or State Department of Health in enforcing their order shall be recoverable against the owner of such building in the same manner as debts of like amount are by law recoverable.

#### Special Requirements for Buildings of Class IIIa Prior Erected.— Tenement and Apartment Houses.

Section 582. In Class III shall be included buildings in which people are lodged and housed.

(a) Tenement and Apartment Houses.

(b) Hotels, Apartment Hotels and Club Houses.

(c) Dwellings.

(d) Lodging Houses and Rooming Houses.

Section 583. (a) The following special requirements for buildings of Class IIIa prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 584. Buildings of Class IIIa prior erected shall be so designed and constructed that the floors, treads and landings of stairways shall safely sustain in addition to the weight of the floor and stairway construction, partitions, permanent fixtures and mechanisms that may be set upon them a live load of fifty (50) pounds on every square foot of surface. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 585. (a) Buildings of Class IIIa prior erected shall be made rat proof in the following manner: The space usually left open between the under side of the floor of the first story and the top of the foundation wall and between the joists set on the foundation wall, and the space between the studdings to a height of four (4) inches above the first and second story floor levels, shall be filled in compactly with brick, stone, cement, concrete or some other approved substance.

(b) If fire stops are provided in such buildings they shall be deemed to comply with the provisions of this section.

(c) There shall be no opening in the ceiling of the cellar or basement which may lead into concealed spaces in the walls or partitions above.

Section 586. No buildings of Class IIIa prior erected of frame construction and more than three (3) stories in height shall be occupied for any of the purposes of Class IIIa after January 1, 1917.

Section 587. (a) Buildings of Class IIIa prior erected, more than two (2) stories in height, shall have two (2) means of egress from every story located as far apart as practicable.

(b) No stairway shall be less than three (3) feet in width and risers shall be not more than eight inches high and treads not more than nine (9) inches in width.

(c) Where any such building has insufficient means of egress, the State Building Commissioner or Chief Building Inspector may order additional means of egress installed.

Section 588. Buildings of Class IIIa prior erected shall have at least two (2) places of entrance or exit located as far apart as practicable, and directly accessible from every apartment, or through a common hall opening on such an apartment.

Section 589. (a) Buildings of Class IIIa prior erected of any other construction than fire-resistive construction and more than three (3) stories in height, shall be provided with at least one (1) fire escape or tower fire escape leading to every story, with a stairway or gooseneck ladder to the roof.



(b) Any outside stairway that is constructed of materials and amply protected where passing windows and openings will meet the requirements of this section.

(c) Means of emergency exits used in lieu of fire escapes, such as ladders and wooden stairways constructed as a fire escape, are prohibited and shall be removed.

(d) Sufficient fire escapes shall be installed to accommodate all the occupants of the building subject to the approval of the State Building Commissioner or Chief Building Inspector.

Section 590. Buildings of Class IIIa prior erected shall have at least one (1) window opening with a window with movable sash on every common hall; provided that, where such a common hall cannot reasonably be so lighted and ventilated, translucent glass panels of an area of at least four (4) square feet shall be inserted in the walls or in the door or as transoms above the doors leading to rooms having windows opening directly to the outer air. Such common hall shall in addition be provided with artificial means of illumination.

Section 591. (a) In buildings of Class IIIa prior erected there shall be at least one (1) bulkhead located in the ceiling of the common hall of the top story. It shall be of a size not less than twenty-four (24) inches by thirty (30) inches, and shall be covered on the outside with metal; access thereto shall be by means of stairs, having risers not more than eight (8) inches high and treads not less than nine (9) inches wide, and a hand rail three (3) feet high.

(b) No bulkhead or scuttle shall have any lock on it or be otherwise securely fastened, but may be fastened on the inside by movable bolts or hooks. There shall be at least one (1) hand rail on the roof leading to the outside stairway from the fire escape which shall be constructed of iron or steel and capable of withstanding a lateral pressure of two hundred (200) pounds at any point along the rail.

(c) If the pitch of the roof exceeds one (1) foot rise in eight (8) feet there shall be a level platform or stairway at least three (3) feet wide leading from every bulkhead and scuttle to the outside stairway from the fire escape and such platform shall have hand rail on each side.

Section 592. (a) Wherever a living room in buildings of Class IIIa prior erected is inadequately lighted, the Local Board of Health or State Department of Health may order such window or windows to be cut in as will give such living room a window area equal to at least one-tenth (1-10) of the floor area.

(b) Living rooms in the attic shall be plastered or sealed above and on all sides. Living rooms in the topmost story shall be plastered or sealed above.

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Section 593. (a) No cellar room in buildings of Class IIIa prior erected shall be occupied for living purposes after the date of the passage of this act.

(b) Basement rooms may not be used for sleeping purposes, but may be used for other purposes; provided that, they are free from dampness and subject to the approval of the Local Board of Health or State Department of Health.

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Section 594. The bottom of all shafts, courts and yards of buildings of Class IIIa prior erected shall be provided with efficient drainage, and graded and paved with cement or concrete.

Section 595. (a) In buildings of Class IIIa prior erected all toilet compartments shall have at least one (1) window opening to the outer air with a glass area of at least four (4) square feet and a minimum width of one (1) foot.

(b) In such buildings there shall be at least one (1) water-closet compartment for each apartment, having at least one (1) entrance independent of a living room; provided that, where there are apartments of not more than one (1) or two (2) rooms there shall be at least one (1) such water-closet compartment for each two families located on the same floor with the apartment it is to serve, or easily accessible to such apartments. At least one (1) entrance thereto must be independent of a living room.

(c) No water-closet shall be maintained in the cellar or basement of any such building without a permit from the Local Board of Health or State Department of Health, and under no circumstances shall general water-closet accommodations be permitted in the cellar or basement.

Section 596. (a) In buildings of Class IIIa prior erected, when feasible, cellars shall be ventilated by openings in the wall to the outer air of an area of at least two (2) feet square. There shall be at least one (1) such opening for every twenty-five (25) feet of lineal distance of walls.

(b) There need be but two (2) such openings; provided that, the aggregate area thereof is equal to the aggregate area of openings required under this section.

Section 597. (a) In buildings of Class IIIa prior erected where there is a public or private water system there shall be at least one (1) hydrant and sink on each floor, accessible to all the tenants on that floor without passing through any other apartment.

(b) Where no public water system is available other means of water supply satisfactory to the Local Board of Health or State Department of Health shall be available on every premise.

(c) Suitable drain and plumbing fixtures shall be installed in connection with every hydrant and sink. All sinks, pipes and



abing shall be exposed except where passing through floors,  
a iron ferrules or plaster shall be used to seal up the openings.

Section 598. (a) Buildings of Class IIIa prior erected shall be  
connected with the public water system or sewer or both where these  
are available.

(b) When not available septic tanks shall be installed subject  
to approval of the Local Board of Health or State Department  
of Health, and cesspools shall be disinfected and filled up not later than  
January 1, 1916.

(c) Where privy vaults are already maintained on the premises  
they may be retained, provided there is no public water or sewerage  
system available, subject to the approval of the Local Board of  
Health or State Department of Health; but the owner must  
see that such privy vaults are cleaned to the bottom when  
ever the contents come within three (3) feet of the level  
of the ground outside or within three (3) feet of the floor of  
the privy house, if such floor is below the level of the surrounding  
ground. It shall be the duty of the occupant of the property to  
correct such privy vault with lime whenever it becomes foul.

Section 599. Buildings of Class IIIa prior erected shall have the  
floor of the cellar or the basement, if there is no cellar, covered with at  
least four (4) inches of cement or concrete, laid so as to be im-  
perious to moisture.

Section 600. In buildings of Class IIIa prior erected the cellar  
walls and ceilings shall be whitewashed or painted with a light  
color paint and shall be so maintained. Such whitewash or paint  
shall be renewed whenever necessary as may be required by the  
Local Board of Health or State Department of Health.

Section 601. Buildings of Class IIIa prior erected shall be kept  
in good repair and the roof shall be kept so as not to leak. All rain  
water shall be so drained and conveyed therefrom as to prevent it  
dripping on to the ground or causing dampness in the walls, cei-  
lings, yards, courts, shafts or areas, or on the adjoining property.

Section 602. (a) In buildings of Class IIIa prior erected fire  
escapes shall be kept in good order and repair and any exposed part  
shall be protected by an approved durable waterproof asphalt paint.

(b) No obstructions shall be placed on or against such fire  
escapes, and it shall be the duty of the State Building Commission-  
er or Chief Building Inspector and the Local or State Fire Marshal to  
condemn any property so obstructing the fire escape.

Section 603. (a) Buildings of Class IIIa prior erected and all  
parts thereof shall be kept clean and free from any accumulation of  
dirt, oil and garbage or other matter in or on the same, or in the

yards, courts, passages, arcaways or alleys connected with or belonging to the same.

(b) It shall be the duty of the owner to so maintain all parts of such buildings used in common with more than one (1) family; and it shall be the duty of the tenant to so maintain that part of the building under his individual control and for his individual use.

Section 604. (a) In buildings of Class IIIa prior erected, the Local Board of Health or State Department of Health shall order the walls of all courts to be thoroughly whitewashed or painted a light color and renewed as often as it may be necessary.

(b) In such buildings no wall paper shall be placed upon any wall or ceiling unless all wall paper shall first be removed, and the wall and ceiling adequately cleaned and disinfected.

(c) Approved metal receptacles for all such buildings shall be provided for ashes, garbage, refuse and other matter. Interior chutes will not be permitted.

Section 605. (a) No horse, cow, calf, swine, sheep, goat, pigeons, chickens or other fowl shall be kept in buildings of Class IIIa prior erected or on the same lot or on the premises thereof.

(b) No such building or the lot or premises thereof shall be used for a lodging house, nor as a place of public assemblage.

Section 606. (a) No buildings of Class IIIa prior erected nor any part thereof, nor of the lot upon which it is situated, shall be used as a place of storage, keeping or handling of any combustible article, except as otherwise herein provided.

(b) No such building or any part thereof, nor of the lot upon which it is situated, shall be used as a place of storage, keeping or handling of any article dangerous or detrimental to life or health, nor for the storage, keeping or handling of feed, hay, straw, excelsior, cotton, paper-stock, feathers or rags, nor the dung of any animal or fowl.

Section 607. (a) No room in buildings of Class IIIa prior erected when used for sleeping purposes shall be occupied or be permitted to be occupied at any one time by more occupants than would give to each occupant thereof who is over twelve (12) years of at least four hundred (400) cubic feet of air space and to each occupant twelve (12) years of age or under at least two hundred (200) cubic feet of air space.

(b) No owner, lessee, tenant or conductor of any such building, and no tenant or lessee of any room or apartment therein shall permit any room to be occupied in violation of this section.

(c) Whenever any room in such building is found to be overcrowded so that there shall not be the amount of air space for each occupant required by this section it shall be the duty of the Local Board of Health or State Department of Health to place a tin



placard on the door of such room stating the number of occupants the room may accommodate, and such room shall not be occupied by more than the number prescribed on such placard.

Section 608. (a) After one (1) year from the date of the passage of this act no bakery or place of business in which fat is boiled will be permitted in any building of Class IIIa prior erected; unless such building is of fire-resistive construction and the room in which the bakery is placed or the fat boiled be protected from the rest of the building by fire doors.

(b) In such building there shall be no transom window or door or other aperture from a room where paint, oil, spirituous liquors or drugs are stored for the purpose of sale or otherwise, opening into a hall or any other part of such building.

Section 609. (a) If any building of Class IIIa prior erected is unfit for human habitation or dangerous to life and health, the State Building Commissioner or Chief Building Inspector or the Local Board of Health or State Department of Health may order the same vacated or removed, and it shall thereafter be unlawful to occupy or to permit the occupancy of such Building until it has been rendered fit for human habitation.

(b) The State Building Commissioner or Chief Building Inspector or the Local Board of Health or State Department of Health shall formulate rules and regulations covering the subject of notice to the owner and tenant of such building which shall be put in writing and kept on file for public inspection.

Section 610. The Local Board of Health or State Department of Health shall have jurisdiction over the sanitary conditions in and about buildings of Class IIIa prior erected, and shall make such orders as may be necessary to keep the plumbing, sewerage, drainage, light and ventilation in proper condition; and it may order removed any nuisance in or about the premises.

Section 611. (a) No person, firm or corporation engaged in the manufacture or sale of clothing or other wearing apparel, cigars or cigarettes, shall bargain or contract with any firm or corporation for the manufacture, or partial manufacture of any of said articles or goods where the same are to be made in any building of Class IIIa prior erected; except that, such contract may be made with a tenant residing in such building and members of his immediate family; provided, that a certificate from the Local Board of Health or State Department of Health is first obtained. Such certificate shall state that the building is free from any infections or contagious diseases and may be revoked by the Local Board of Health or State Department of Health whenever the exigencies of the case

may require. The term "family" in this section shall include only the parents and their children or the children of either.

(b) No room in such building shall be used for manufacturing by more persons than will allow four hundred (400) cubic feet of air space per person.

Special Requirements for Buildings of Class IIIb Hereafter Erected  
—Hotels, Etc.

Section 612. In Class III shall be included all buildings in which people are lodged or housed.

- (a) Tenement and Apartment Houses.
- (b) Hotels, Apartment Hotels and Club Houses.
- (c) Dwellings.
- (d) Lodging Houses and Rooming Houses.

Section 613. (a) The following special requirements for buildings of Class IIIb hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 614. (a) Buildings of Class IIIb hereafter erected three (3) or more stories in height shall be of fire-resistive construction.

(b) Frame construction will be permitted in such buildings not more than two (2) stories in height, provided that such building is at least thirty (30) feet distant from any other building or structure.

Section 615. Any portion of any building hereafter erected, which is used for any of the purposes of Class IIIb, shall be separated from every other part of the same building by a fire wall without openings.

Section 616. (a) Buildings of Class IIIb hereafter erected may occupy one hundred (100) per cent. of a corner lot or one hundred (100) per cent. of a lot situated at the intersection of two (2) or more streets but not more than ninety (90) per cent. of an interior lot, and such building shall have an unobstructed frontage on a street.

(b) The area left vacant by virtue of the operation of paragraph (a) of this section, except as is hereinafter provided, shall be free and unobstructed from the ground to the sky.

(c) All measurements shall be taken at the ground level.

(d) Where other buildings are built in the rear of any building of this class they shall not approach nearer than sixteen (16) feet, provided that there shall be access from the court thus formed to a street or public alley through a passageway not less than six (6) feet wide.

Section 617. Buildings of Class IIIb hereafter erected shall not hereafter be enlarged or the lot on which they stand be diminished



placard on the door of such building occupied by buildings the room may accommodate under the provisions of this by more than the number of fire escapes constructed a part of the lot occupied.

Section 608. (a) Buildings of Class IIIb hereafter erected shall not be permitted to be erected on a lot so small that the area of the lot stand be diminished so that a such building will be occupied than is permitted by the bakery building.

(b) In applying for a permit for the erection or moving of, a building of Class IIIb or other building, the applicant shall submit to the State Building Commissioner or a duly authorized agent thereof, a plan of the lot, showing the location and relative position of the lot in reference to the streets and alleys, and the portion to be occupied by the building or by the building to be altered or added to, and the position of any other buildings that may be on the lot. The measurements shall be taken at the ground level.

Section 609. (a) Buildings of Class IIIb hereafter erected shall be built and constructed in the following manner: The space usually left between the underside of the floor of the first story and the top of the foundation wall and between the joists set on the foundation wall and the space between the studdings to a height of four (4) feet above the first and second story floor levels, shall be filled in completely with brick, stone, cement or concrete.

(b) If fire steps are provided in such buildings such buildings shall be deemed to comply with the provisions of this section.

(c) There shall be no openings in the ceiling of the cellar or basement which may lead into concealed spaces in the walls or partitions.

Section 610. (a) In buildings of Class IIIb hereafter erected there shall be at least one (1) bulkhead located over the common hall on the top floor. It shall be of a size not less than twenty-four (24) inches by thirty (30) inches, and shall be covered on the outside with metal; access thereto shall be by means of stairs, having treads not more than eight (8) inches in height and treads not less than nine (9) inches in width.

(b) No bulkhead or scuttle shall have any lock on it or be otherwise securely fastened, but may be fastened on the inside by movable bolts or hooks. There shall be at least one (1) hand rail on the roof leading to the nearest fire escape.

(c) If the pitch of the roof exceeds one (1) foot rise in four (4) feet there shall be a level platform or stairway at least three (3) feet wide leading to the nearest tower fire escape from every bulkhead and scuttle, and such platform shall have hand rails on each side.

Section 622. In the floor and in partitions dividing sleeping rooms in buildings of class IIIb hereafter erected, there shall be some approved sound proofing material installed in an approved manner.

Section 623. Buildings of Class IIIb hereafter erected shall be so designed and constructed that the floors and treads and landings of stairways shall safely sustain, in addition to the weight of the floor and stairways construction, partitions, permanent fixtures and mechanisms, a live load of seventy-five (75) pounds on every square foot of surface. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 624. Buildings of Class IIIb hereafter erected, not located over any portion of a building used for other purposes, shall have the first story level not less than three (3) feet above grade or the surface of the ground, if there is no grade.

Section 625. Buildings of Class IIIb hereafter erected shall have either a basement or a cellar at least eight (8) feet deep, and the foundation walls of all such buildings shall extend to a distance of at least eight (8) feet below the mean surface level of the ground.

Section 626. The basement, or if there is a cellar, then the lowest cellar, of buildings of class IIIb hereafter erected shall have a floor of cement or concrete laid so as to be impervious to moisture, not less than four (4) inches in thickness, laid on not less than six (6) inches of sand or cinders, gravel, crushed stone or other approved material.

Section 627. (a) The basement or the cellar, where there is no basement, of buildings of Class IIIb hereafter erected more than two (2) stories in height, shall be equipped with an automatic sprinkler system so designed as to cover the entire basement or cellar, as the case may be.

(b) Where such buildings are less than three (3) stories in height, in lieu of automatic sprinklers the under side of the first floor shall be exposed, and shall be painted with an approved fire-resistive solution or with whitewash as often as the Local or State Fire Marshal may order.



Section 628. No wall of buildings of Class IIIb hereafter erected which contains windows, shall be placed nearer any other building structure or lot line than sixteen (16) feet.

Section 629. (a) In buildings hereafter erected to be used principally for the purposes of Class IIIb, but where the first or other stories are used for other purposes, unless the building is of fire-resistive construction and unless there is a fire wall separating the portion of the building used for the purposes of this class from the other portions of the building, the under side of the floor forming the lower part of the entrance story shall be lathed with metal lath and be plastered with an approved fire-resistive plaster.

(b) Stories in such buildings whether used for the purposes of this Class or not shall be counted in determining what shall be the type of the construction as required by this act for buildings of Class IIIb hereafter erected.

Section 630. (a) Buildings of Class IIIb hereafter erected more than three (3) stories in height shall have at least one (1) tower fire escape constructed as required by this act. Such tower fire escape shall be located as far as practicable from each of the stairways required by this act, and shall be accessible from all common halls in every story.

(b) Elevators may be enclosed in the same tower with the tower fire escape provided that the tower fire escape proper is separated from the elevators by a fire wall without any openings of any kind.

(c) There shall be an outside stairway constructed of iron or steel in an approved manner leading from the entrance to the tower fire escape on the topmost story to the roof.

(d) In all such buildings more than three (3) stories in height and having two hundred (200) sleeping rooms above the third story there shall be two (2) such tower fire escapes which shall be located as far as practicable from each of the stairways required by this act and as far from each other as the State Building Commissioner or Chief Building Inspector may require.

(e) All tower fire escapes for buildings of this class shall discharge at the ground level to a street.

(f) All tower fire escapes and the outside stairways to the roof shall at all times be kept in good order and repair and no waste matter, utensils or other obstructions of any kind shall be placed or kept therein or in any of its doorways or the passageways leading thereto, and it shall be the duty of the State Building Commissioner or Chief Building Inspector and the Local or State Fire Marshal to confiscate any property found in such tower fire escape.

Section 631. (a) In the common halls of buildings of Class I hereafter erected more than three (3) stories in height, on e-

floor there shall be at least one (1) standpipe constructed as required by this act. There shall be a sufficient number of such standpipes to reach every part of every floor of such building.

(b) At each standpipe there shall be one (1) fire ax, one (1) crowbar, one (1) plaster hook and two (2) hose spanners kept in a case with a glass door. Such case shall be so constructed that an alarm will be recorded in the office of the building if the case is broken or the door opened. There shall also be two (2) two and one-half ( $2\frac{1}{2}$ ) gallon chemical hand fire extinguishers placed near each standpipe.

(c) Where there is no public water supply of sufficient pressure to produce a pressure of thirty (30) pounds at the nozzle of the branch pipe there shall be installed a water tank with a capacity subject to the approval of the Local or State Fire Marshal. The pipe leading from such tank shall be provided with a check valve so placed as to prevent water from being forced back into the tank. The standpipes shall also be connected to a pipe leading to the street where such pipe shall be provided with standard fire department hose couplings and self-closing valves. Such pipes shall be marked, designating what part of the building or what system they supply.

(d) Every standpipe shall be provided at each floor with a water guage.

(e) At least once a month the manager of all hotels shall instruct all employes in a fire fighting drill, during which the hose shall be removed from the racks and the portable fire extinguishers removed from their supports. Due notice of such fire fighting drills shall be posted in each sleeping room and in the main corridors. A written report of such drills shall be made and shall be sent to the Local and State Fire Marshals.

Section 632. (a) In buildings of Class IIb hereafter erected there shall be a white light at the intersection of all corridors and common halls, which shall be kept burning at night.

(b) There shall be a red light over doors which lead directly to a tower fire escape or which open onto passageways which lead to a tower fire escape. Such red light shall be kept burning at all times throughout the night.

(c) The words "tower fire escape" shall appear over every door leading to a tower fire escape or to a passageway which leads to a tower fire escape, the letters of which shall be in red and at least four (4) inches high.

(d) At every twenty-five (25) feet of lineal distance in common halls, except the entrance hall or lobby, there shall be a sign with letters in red at least four (4) inches high, as follows: "To Tower



Fire Escape," and an arrow or index finger shall point the nearest way to the tower fire escape.

Section 633. In buildings of Class IIIb hereafter erected of other than fire-resistive construction, in all walls where wooden furring is used the two (2) courses of brick below the top of the floor beam shall project one and one-half ( $1\frac{1}{2}$ ) inches beyond the furring and shall be leveled off with plaster to the top of the beams after the beams are in place, to form a fire stop. If concrete or other materials are used for walls an equivalent projection shall be provided.

Section 634. (a) In buildings of Class IIIb hereafter erected no sliding, rolling, automatic, revolving, accordion doors or doors hinged together shall be used within the building, except as follows:

(b) Sliding or rolling doors may be used within suites, provided that every room in such suite connected by such door shall have access to a common hall through a hinged door.

(c) Sliding or rolling doors may be used to subdivide rooms, provided there is a hinged door in one (1) of the central panels of such doors.

(d) All doors in any common hall leading to an exit to the outer air shall open in the direction of such exit.

Section 635. (a) In buildings of Class IIIb hereafter erected, that portion partitioned off for sleeping rooms shall have fire-resistive partitions dividing the rooms into units having not more than two thousand (2,000) square feet of floor area in each suit.

(b) All openings in these fire-resistive partitions shall be provided with approved self-closing fire doors.

Section 636. (a) Inner courts, outer courts and lot line courts of buildings of Class IIIb hereafter erected shall have a least dimension of sixteen (16) feet exclusive of the widths of fire escapes, bay windows or other appendages permitted in such courts.

(b) Every inner court and every lot line court shall be connected directly with a street, alley, yard or outer court by a passageway extending from the ground level of such street, alley, yard or outer court to such inner court and lot line court. Such passageway shall be at least four (4) feet wide and eight (8) feet high. There shall be no steps or risers in such passageway, and no rise of more than one (1) foot in ten (10) feet. Such passageway shall be enclosed by walls of approved fire-resistive materials at least four (4) inches thick, and such passageway and such inner and lot line courts shall be kept free of obstructions of any kind, including snow, ice, and waste material. Such passageways may be provided at the outer side with a door which shall open outward. Such door shall not be locked or fastened in any manner but may be self-closing.

(c) Courts shall be open and unobstructed from the ground to the sky, and shall not be covered with a skylight or any other covering.

(d) The bottom of all courts and shafts shall be paved with cement or concrete and provided with efficient drainage.

Section 637. (a) Vent shafts of buildings of Class IIIb hereafter erected shall have a least dimension of not less than five (5) feet.

(b) Every opening onto a vent shaft, with the exception of the passageway to the street, alley, yard or court herein required, shall be covered by grids or an iron or steel grille. The least dimension shall be not less than four (4) inches.

(c) There shall be an open passageway leading from every vent shaft to a street, alley, yard or court. Such passageway shall be constructed in the manner required for passageways from inner and lot line courts, with the exception that it need be but two (2) feet six (6) inches wide by six (6) feet high.

Section 638. (a) Buildings of class IIIb hereafter erected shall have at least two (2) stairways located on opposite ends or sides of the building, leading to independent exits on opposite sides of the building, and there shall be at least two (2) stairways extending from floor to floor between all floors.

(b) All stairways in any such building, three (3) or more stories in height, shall be constructed of approved fire-resistive materials, and shall be completely enclosed by walls and ceilings constructed of approved fire-resistive materials, except such stairways as are hereinafter excepted under the provisions of this section. Entrances to stairways at all floor levels shall be vestibuled. Doors of vestibules shall be self-closing, double swinging approved fire doors, and shall not be locked or fastened in any manner either in an open or closed position. Vestibules and doors of vestibules shall be constructed of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames, or other approved fire-resistive materials. Openings in enclosing walls of stairways will be permitted for lighting purposes, provided that they are fitted with wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames, and provided that no such opening shall be in any wall separating such stairway from any room.

(c) Risers shall be not more than eight (8) inches high, and treads not less than nine (9) inches wide.

(d) No stairway shall extend continuously for more than the distance between floors.

(e) Circular or winding stairways are prohibited, and all nosings and treads shall be straight.

(f) Every stairway shall have a hand rail on both sides which may be of wood. Stairways more than five (5) feet in width shall



be provided with double intermediate hand rails, supported by end newel posts at least seven (7) feet high and securely fastened to the wall.

(g) All exterior stairways wherever constructed shall have the space between the hand rails and the stairs filled up with expanded metal or grille work.

(h) Door frames shall in all cases be at least four (4) feet from any stairway.

(i) No stairway shall be less than four (4) feet in width, and where any increase in width under the provisions of this section shall be necessary such stairways shall be increased in width in multiples of two (2) feet. The width of stairways shall be in the ratio of twenty (20) inches for every one hundred (100) people intended to be accommodated thereby.

(j) Nothing in this section shall be construed to prevent the construction of monumental stairways, provided that they are equipped with hand rails on each side; and provided further that the upper landing thereof shall be partitioned off from the rest of the building by a fire-resistive partition as is herein provided for stairways.

(k) No closet shall be placed under any stairway, and the space under all such stairways shall not be used for the storage of any material.

Section 639. (a) In buildings of Class IIIb hereafter erected, no common hall shall be less than five (5) feet in width, and no private hall shall be less than three (3) feet in width.

(b) All rooms or suites of rooms, stairways and elevators shall open on a common hall.

(c) On every floor that portion of the common hall onto which the elevator shafts open shall be partitioned off from every other portion of the common hall by a fire-resistive partition fitted with approved self-closing, double swinging hinged fire doors. Such doors shall at all times remain in a closed position, except when in actual use, and when opened such doors shall not obstruct the entrance to the elevators. Such fire-resistive partitions and such doors may be constructed of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames.

Section 640. (a) In buildings of Class IIIb hereafter erected more than three (3) stories in height, there shall be at least one (1) high speed passenger elevator for each two hundred (200) sleeping rooms in such building.

(b) All such buildings five (5) or more stories in height shall be provided with at least two (2) such elevators.

(c) The size of the elevator car shall be not less than the following, or the equivalent, should more than the prescribed number of elevators be installed.

Four (4) stories, 25 square feet.

Five (5) stories, 30 square feet.

Six (6) stories, 35 square feet.

Seven (7) stories, 40 square feet.

Eight (8) or more stories, 45 square feet.

(d) Elevators shall not be considered or computed as a means of egress.

Section 641. (a) In buildings of Class IIIb hereafter erected rooms designed for living or sleeping purposes shall contain at least one (1) window having a superficial area of not less than one-tenth (1-10) of the floor area of such rooms. Such window shall open upon a street, alley, yard or court.

(b) Over the door of every such room there shall be a transom with movable sash.

(c) No room designed for living or sleeping purposes shall have a least dimension of less than eight (8) feet.

Section 642. (a) In buildings of Class IIIb hereafter erected no room in any basement or cellar shall be occupied for sleeping purposes.

(b) Dining rooms, lunch rooms, bakeries, kitchens and laundries may be located in any basement, provided that such basement is at least nine (9) feet high and that the aggregate window space is equal to one-twelfth (1-12) of the floor area of such basement room, and provided further that an approved system of ventilation shall be installed that will change the air not less than six (6) times per hour.

(c) If areaways are used the widths of the same shall be the height of the lowest window sill to the coping at the surface of the ground. Nothing in this section shall be construed to permit areaways extending over the building line.

Section 643. (a) Furnaces, hot water heating boilers and low pressure steam boilers may be located in buildings of Class IIIb hereafter erected, provided that the heating apparatus, breeching, fuel room and firing rooms are enclosed with walls built of approved fire-resistive materials; and provided further, that all openings in such walls from other parts of the building are equipped with approved self-closing hinged fire doors. Where there are less than twenty (20) sleeping rooms in any building, the ceiling and walls of the rooms containing the heating apparatus, fuel, breech-



ing and firing rooms shall be lathed with metal lath and plastered with an approved fire-resistive plaster.

(b) No furnace or boiler shall be located under any lobby, exit or common hall.

(c) No cast iron boiler operated at more than ten (10) pounds pressure, or steel boiler operated at more than thirty-five (35) pounds pressure shall be located within the main walls of the building.

Section 644. Buildings of Class IIb hereafter erected used as a hotel must either be connected with a public water or sewerage system or shall have a private water and sewerage system satisfactory to the Local Board of Health or State Department of Health.

(b) Separate general toilet rooms shall be provided within the building for men and women guests and employees.

(c) No toilet room shall connect directly with any kitchen, dining room or other room where edibles are stored, prepared or consumed.

(d) General toilet rooms for men shall contain water-closets, urinals and lavatories and the same shall be placed either in the entrance story or the story immediately above or below the entrance story. There shall be one (1) such water-closet, urinal and lavatory for each twenty (20) sleeping rooms in such building.

(e) General toilet rooms for women shall contain water-closet and lavatories and the same shall be located in the entrance story or in the story immediately above or below the entrance story or may be distributed about the building. There shall be one (1) such toilet room on each floor above the entrance floor.

(f) There shall be at least one (1) toilet room on each floor above the entrance floor, containing at least one (1) water-closet, one (1) urinal, one (1) lavatory and one (1) shower bath for every twenty (20) rooms not provided with bath rooms, or fractional part thereof on such floor.

(g) General toilet rooms shall be clearly marked "Men" or "Women," as the case may be, in letters not less than four (4) inches high.

(h) All general toilet rooms shall have a window surface of at least one-tenth (1-10) of the floor area of such room, unless there is a mechanical system of ventilation changing the air in such toilet room at least six (6) times per hour.

(i) The floor covering or flooring of every water-closet compartment, whether in general or private toilet rooms, shall be made water proof with asphalt, tile, stone or some other non-absorbent water proof material, and such water proofing shall extend on the walls at least six (6) inches above the floor. Drip trays are pro-

hibited, and no water-closet fixtures shall be enclosed with any wood-work. All piping of water-closets, urinals and lavatories shall be exposed except when necessary to pass through floors or partitions; and where plumbing and other pipes pass through floors or partitions the opening around such pipes shall be sealed or made air tight with plaster or iron ferrules.

(j) Buildings of this class used as apartment hotels need not comply with the requirements of this section relating to toilet rooms except as to the requirements relating to the floor covering or flooring, piping and plumbing, but each suite or apartment shall have at least one (1) water-closet, one (1) lavatory and one (1) bath. Access to all toilet facilities within an apartment shall be had without passing through any living room.

(k) Buildings of this class used as club houses need not comply with the provisions of this section relating to general toilet rooms, but ample toilet facilities shall be provided.

Section 645. (a) In buildings of class IIIb hereafter erected shops or stores dealing in paint, oil or other easily inflammable or combustible materials are prohibited.

(b) Baking establishments other than those used in connection with the purposes for which the building is erected are prohibited.

Section 646. For every building of class IIIb hereafter erected, approved metal receptacles shall be provided for ashes and garbage, which shall be emptied and removed daily. No interior garbage or ash chute will be permitted.

Section 647. (a) In buildings of class IIIb hereafter erected one (1) or more alarms or gongs capable of being heard throughout the building shall be provided in the office or in the common hall on the main floor of such building; or there shall be an electric alarm bell in each sleeping room capable of being simultaneously operated from the office. Telephone bells in rooms shall not be construed to be in compliance with the provisions of this section.

(b) Every such building shall have a notice descriptive of all means of exit posted in a conspicuous place in every sleeping room.

Section 648. (a) Buildings of class IIIb hereafter erected, containing twenty (20) or more sleeping rooms, and more than three (3) stories in height shall be provided with a heating system which will uniformly heat all parts of the building to a temperature of seventy (70) degrees in zero weather.

(b) All such buildings three (3) stories or less in height and containing less than twenty (20) sleeping rooms shall be provided with a furnace, steam or hot water heating system, which will uni-



formly heat all parts of the building to a temperature of seven (70) degrees in zero weather.

(c) Dormitories and sleeping rooms containing sleeping accommodations for more than six (6) persons shall be provided with combination heating and ventilating system which at normal temperature will supply to each person not less than eighteen hundred (1,800) cubic feet of air per hour.

(d) Where a change of air is required the system to be installed shall be either approved ventilating stoves, a gravity or mechanical furnace system, gravity indirect steam or hot water, a mechanical steam or hot water system, or any other approved heating system.

(e) No floor registers shall be used in any part of the building and stoves, grates or heat generators are prohibited in sleeping rooms.

Section 649. (a) In buildings of class IIIb hereafter erected more than two (2) stories high and containing fifty (50) or more rooms, there shall be kept on duty one (1) competent watchman between the hours of nine (9) P. M. and seven (7) A. M.

(b) Such watchman shall hourly patrol the premises and a record of such patrol shall be automatically recorded in the office of the watchman's time clock.

Section 650. Buildings of class IIIb hereafter erected shall be maintained over a stable, barn, haymow, garage, dry cleaning establishment, fire department building, planing mill, carpenter shop or paint shop, or over any portion thereof used for the storage, manufacture or handling of any highly inflammable or noxious material.

#### Special Requirements for Buildings of Class IIIb Prior Erected Hotels, Apartment Hotels and Club Houses.

Section 651. In class III shall be included buildings in which people are lodged and housed.

- (a) Tenement and Apartment Houses.
- (b) Hotels, Apartment Hotels and Club Houses.
- (c) Dwellings.
- (d) Lodging Houses and Rooming Houses.

Section 652. (a) The following special requirements for buildings of class IIIb prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 653. Wherever buildings of class IIIb prior erected are built in conjunction with any other building not of fire-resistive

struction it shall be separated from such building by a solid fire wall; or the dividing wall shall be protected with metal lath covered with an approved fire-resistive plaster. All openings in such wall leading to such other building shall be covered with approved self-closing hinged fire doors.

Section 654. Buildings of class IIIb prior erected shall not hereafter be enlarged or the lot on which they stand be diminished so that a greater percentage of the lot shall be occupied by buildings or structures than is permitted for buildings of class IIIb hereafter erected; provided that, the space occupied by fire escapes constructed as required by this act shall not be deemed a part of the lot occupied.

Section 655. (a) Buildings of class IIIb prior erected shall be made rat proof in the following manner: The space usually left open between the underside of the floor of the first story and the top of the foundation wall and between the joists set on the foundation wall, and the space between the studdings to a height of four (4) inches above the first and second story floor levels, shall be filled in compactly with brick, stone, cement or concrete.

(b) If fire stops are provided in such buildings such buildings shall be deemed to comply with the provisions of this section.

(c) There shall be no openings in the ceiling of the cellar or basement which may lead into concealed spaces in the walls or partitions above.

Section 656. (a) In buildings of class IIIb prior erected there shall be at least one (1) bulkhead located over the common hall on the top floor. It shall be of a size not less than twenty-four (24) inches by thirty (30) inches, and shall be covered on the outside with metal; access thereto shall be by means of stairs, having risers not more than eight (8) inches in height and treads not less than nine (9) inches in width.

(b) No bulkhead or scuttle shall have any lock on it or be otherwise securely fastened, but may be fastened on the inside by movable bolts or hooks. There shall be at least one (1) hand rail on the roof leading to the nearest fire escape.

(c) If the pitch of the roof exceeds one (1) foot rise in four (4) feet there shall be a level platform or stairway at least three (3) feet wide leading to the nearest fire escape from every bulkhead and scuttle, and such platform shall have hand rails on each side.

Section 657. Buildings of class IIIb prior erected shall be so designed and constructed that the floors, and treads and landings of stairways shall safely sustain, in addition to the weight of the floor and stairway construction, partitions permanent fixtures and



mechanisms a live load of fifty (50) pounds on every square foot of surface. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 658. Buildings of class IIIb prior erected shall have at least two (2) exits to a street or public alley or to an uncovered open space leading directly to a street or a public alley.

Section 659. The basement, or if there is a cellar, then the lowest cellar, of buildings of class IIIb prior erected shall have a floor of cement or concrete laid so as to be impervious to moisture, not less than four (4) inches in thickness, laid on not less than six (6) inches of sand or cinders, gravel, crushed stone or other approved material.

Section 660. (a) The basement or the cellar where there is no basement, of buildings of class IIIb prior erected, more than two (2) stories in height, shall be equipped with an approved automatic sprinkler system so designed as to cover the entire basement or cellar, as the case may be.

(b) Where such buildings are less than three (3) stories in height, in lieu of automatic sprinklers, the under side of the first floor shall be exposed and shall be painted with an approved fire-resistive solution, or with whitewash as often as the Local or State Fire Marshal may order.

Section 661. Where any portion above the first story of any building prior erected is used for the purposes of class IIIb, the ceiling below the entrance story shall be lathed with metal lath and plastered with an approved fire-resistive plaster.

Section 662. (a) Buildings of class IIIb prior erected more than two (2) stories in height shall have at least one (1) fire escape or tower fire escape. Direct access thereto shall be had from all parts of every floor through a common hall and without going through any room.

(b) Wherever any such fire escape passes over or across any window or other opening, the bottom and inner side shall be covered with sheet metal or other approved fire-resistive material for at least two (2) feet on either side of such window or opening. This covering on the inside shall be at least six (6) feet high.

Section 663. (a) Buildings of class IIIb prior erected three (3) stories and over in height shall have at least one (1) standpipe with fire hose as required in this act, extending to the topmost story, and in addition there shall be a sufficient number of such standpipes with such hose attached to reach every part of every floor.

(b) Such building more than two (2) stories in height shall be provided in the common hall in each story above the first story with

a case containing one (1) fire ax, one (1) crowbar and one (1) plaster hook. Such case shall be so constructed that an alarm will be recorded in the office of the building if the case is broken or the door opened. There shall also be two (2) two and one-half (2½) gallon hand chemical fire extinguishers located on each floor subject to the approval of the Local or State Fire Marshal.

(c) At least once a month the manager of such building used as hotels shall instruct all employes in a fire fighting drill, during which the hose shall be removed from the racks and the portable fire extinguishers removed from their supports. Due notice of such fire fighting drill shall be posted in each sleeping room and in the main corridors. A written report of such drills shall be made and sent to the Local or State Fire Marshals.

Section 664. (a) Buildings of class IIIb prior erected shall have a white light at the intersection of all corridors with common halls which shall be kept burning at night.

(b) There shall be a red light at all exit openings. Such red light shall be kept burning at all times during the night.

(c) The words "Fire Escape" shall appear over every exit leading to a fire escape, the letters of which shall be at least four (4) inches high.

(d) At every twenty-five (25) feet of lineal distance in common halls, except the entrance hall or lobby, there shall be a sign with letters at least four (4) inches high, as follows: "To Fire Escape," and an arrow or index finger shall point the nearest way to the fire escape exit.

Section 665. Buildings of class IIIb prior erected shall have all courts open and unobstructed from the floor over the first story to the sky.

(b) The bottom of all courts and shafts shall be paved with cement or concrete and provided with efficient drainage.

(c) Yards shall be properly and adequately drained.

Section 666. (a) Buildings of class IIIb prior erected shall have at least two (2) stairways located on opposite ends or sides of the building and leading to independent exits. There shall be at least two (2) stairways extending between every floor.

(b) No stairway shall extend continuously for more than a distance from floor to floor. All stairways which are not constructed of approved fire-resistive material shall have the underside lathed with metal lath and plastered with an approved fire-resistive plaster.

(c) Such buildings used as hotels and more than three (3) stories in height shall have all stairways enclosed at floor landings by fire-resistive partitions of an approved thickness. Such partition to be provided with double swinging fire doors.



(d) Winding, circular stairways are prohibited, and all nos and treads shall be straight.

(e) Every stairway shall have a hand rail on both sides w may be of wood. Stairways more than six (6) feet in width sha provided with double intermediate hand rails supported by newel posts at least seven (7) feet high.

(f) All exterior stairways in such buildings wherever constr shall have the space between the hand rails and the stairs fille with lattice work or expanded metal.

(g) No stairway in such building shall be less than two feet six (6) inches in width, and the aggregate width of stair on and above each floor from which the stairway leads sha in the ratio of twenty (20) inches for every one hundred (100) ple to be accommodated thereby.

(h) No closet in such building shall be placed under any stai and the space underneath such stairway shall not be used fo storage of any material.

Section 667. (a) In buildings of class IIIb prior erected r or suites of rooms, stairways and elevators shall open on a con hall on each story.

(b) There shall be no obstruction of any kind, temporar permanent, in a common hall, and no door shall be used in a con hall except an approved double swinging fire door.

(c) On every floor that portion of the common hall onto v the elevator shafts open shall be separated from every other po of the common hall by approved double swinging fire doors. doors shall at all times remain in a closed position, except wh actual use, and when opened such doors shall not obstruct th trance to the elevators.

Section 668. (a) In buildings of class IIIb prior erected r designed for living and sleeping purposes shall contain at leas (1) window having a superficial area of not less than one-tw (1-12) of the floor area of such room. Such window shall upon a street, alley, yard or court.

(b) No room in such building shall be occupied for livir sleeping purposes unless such room has a floor area of at eighty (80) square feet, and whose cubic contents are at leas hundred and forty (640) cubic feet.

Section 669. If furnaces, hot water heating boilers and low sure steam boilers are located in buildings of class IIIb prior er the héating apparatus, fuel room and firing room shall be sepa from the rest of the building by walls and ceilings construct ved fire-resistive materials of approved thickness, and all

ings in them shall be provided with approved self-closing hinged fire doors.

Section 670. (a) Buildings of class IIIb prior erected used as a hotel must either be connected with a public water and sewer system or shall have a private water and sewer system satisfactory to the Local Board of Health or State Department of Health.

(b) Separate general toilet rooms in such building shall be provided within the building for men and women guests and employes.

(c) No toilet room in such buildings shall connect directly with any kitchen, dining room or other room where edibles are stored, prepared or consumed.

(d) Toilet rooms shall be clearly marked, designating whether for men or women, in letters not less than four (4) inches high.

(e) All toilet rooms in such buildings shall have a window surface of at least one-tenth (1-10) of the floor area of such room, unless there is a mechanical system of ventilation changing the air in such toilet room at least six (6) times per hour.

(f) The floor of every water-closet compartment in such buildings shall be made water proof with asphalt, tile, stone or some other non-absorbent water proof material, and such water proofing shall be extended on the walls at least six (6) inches above the floor. Drip trays are prohibited, and no water-closet fixtures shall be enclosed with any woodwork. All piping in water-closets shall be exposed, except when necessary to pass through floors or partitions and where plumbing and other pipes pass through floors or partitions the opening around such pipes shall be sealed or made air tight with plaster or iron ferrules.

(g) The Local Board of Health or State Department of Health may order changes in the plumbing or sanitary system of any such building where the existing plumbing or sanitary system is in such condition as to constitute a menace to the public health.

Section 671. (a) In buildings of class IIIb prior erected shops or stores dealing in paint, oil or other easily inflammable or combustible materials are prohibited.

(b) Baking establishments other than those used in connection with the purposes for which the building is erected are prohibited.

Section 672. Buildings of class IIIb prior erected shall be provided with approved metal receptacles for ashes and garbage, which shall be emptied and removed daily. No interior garbage or ash chute will be permitted.

Section 673. (a) In buildings of class IIIb prior erected one (1) or more alarms or gongs capable of being heard throughout the building shall be provided in the office or in the common hall on the



main floor of such building; or there shall be an electric alarm bell in each sleeping room capable of being simultaneously operated from the office. Telephone bells in rooms shall not be construed to be in compliance with the provisions of this section.

(b) Every such building shall have a notice descriptive of all means of exit posted in a conspicuous place in every sleeping room.

Section 674. (a) In buildings of class IIIb prior erected every opening onto a vent shaft, except openings at the ground level, shall be covered by grids or an iron or steel grille. The least dimension of the open spaces shall be not less than four (4) inches.

Section 675. (a) In buildings of class IIIb where furnaces, hot water boilers and low pressure steam boilers are located in the building, the room or rooms containing them together with the breeching, fuel and firing rooms shall either be built of approved fire-resistive materials or such walls shall be lathed on the inner side with metal lath and plastered with an approved fire-resistive plaster. Openings in such walls shall be equipped with approved self-closing hinged fire doors.

(b) No furnace or boiler shall be located under any lobby, exit or common hall.

Section 676. Buildings of class IIIb prior erected shall be provided with a heating system which will uniformly heat all parts of the building to a temperature of seventy (70) degrees Fahrenheit in zero weather.

Section 677. (a) In buildings of class IIIb prior erected more than two (2) stories high and containing fifty (50) or more rooms, there shall be kept on duty one (1) competent watchman between the hours of nine (9) P. M. and seven (7) A. M.

(b) Such watchman shall hourly patrol the premises and a record of such patrol shall be automatically recorded in the office by a watchman's time clock.

Section 678. Buildings of class IIIb prior erected shall not be maintained over a stable, barn, haymow, garage, dry cleaning establishment, fire department building, planing mill, carpenter shop or paint shop, or over any portion thereof used for the storage, manufacture or handling of any highly inflammable or noxious material.

#### Special Requirements for Buildings of Class IIIc Hereafter Erected. —Dwellings.

Section 679. In class III shall be included buildings in which people are lodged and housed.

(a) Tenement and Apartment Houses.

(b) Hotels, Apartment Hotels and Club Houses.

(c) Dwellings.

(d) Lodging Houses and Rooming Houses.

Section 680. (a) The following special requirements for buildings of class IIIc hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 681. Buildings of class IIIc hereafter erected shall be so designed and constructed that the floors shall safely sustain in addition to the weight of the floor construction, partitions, permanent fixtures and mechanism that may be set upon them a live load of fifty (50) pounds on every square foot of surface. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 682. Buildings of class IIIc hereafter erected shall not be occupied in whole or in part for human habitation until the issuance by the State Building Commissioner or Chief Building Inspector of a certificate that the said building conforms to the requirements of this act, nor until the issuance of a certificate by the Local Board of Health or State Department of Health that said building conforms to the requirements of this act relative to light, ventilation, plumbing, drainage and sanitation. Within five (5) days from date of application for any certificate above mentioned, such certificate shall be issued, or the official concerned shall state in writing his reasons for his refusal to issue said certificate.

Section 683. All plans for the erection or construction of buildings of class IIIc hereafter erected, and all plans for the installation of heating or ventilating apparatus, lighting system, plumbing, fixtures, sinks or cesspools, besides being submitted to the State Building Commissioner or Chief Building Inspector, shall be submitted to the Local Board of Health or State Department of Health for its approval of said plans and of the sanitary conditions surrounding the ground over which the proposed building is to be erected; and no permit for the erection or construction of any building shall be issued until such approval has been obtained and endorsed on the plans.

Section 684. (a) At the time of applying for a permit for the erection of, alteration of, addition to, or moving of buildings of class IIIc hereafter erected; or for the erection, alteration, adding to, or moving of, and building onto a lot upon which a building of class IIIc hereafter erected stands, the applicant shall submit to the State Building Commissioner or Chief Building Inspector a plan of



the lot, showing the location and dimensions of the same, the relative position of the lot in reference to the nearest streets and alleys, and the portion to be occupied by the proposed building or by the building to be altered or added to or by the building to be moved thereon; also the position of any other building or buildings that may be on the lot.

(b) The measurements shall in all cases be taken at the ground level.

Section 685. (a) Whenever it is desired to change the use of any building of any other class erected or converted prior to the passage of this act to the uses or purposes of buildings of class IIIc hereafter erected, the owner shall notify the State Building Commissioner or Chief Building Inspector and the Local Board of Health or State Department of Health and shall submit to such officer or officers, as the case may be, a statement in writing describing the building, the uses of which he proposes to change, its street number, its present use, and giving such further information as such officer or officers, as the case may be, may require. It shall thereupon become the duty of such officer or officers, as the case may be, to immediately make an inspection and ascertain if such building meets with the requirements of this act relating to buildings of class IIIc hereafter erected.

(b) If upon inspection the State Building Commissioner or Chief Building Inspector and the Local Board of Health or State Department of Health find that such building complies with all the requirements relating to buildings of class IIIc hereafter erected they shall then issue a permit authorizing the use of such building for the purposes of class IIIc, and no such building shall be occupied for such purposes until such a permit shall be first had and obtained.

Section 686. (a) Buildings of class IIIc hereafter erected may be of frame construction provided that they are not more than two (2) stories and attic in height.

(b) No such building shall be more than three (3) stories and attic in height, nor higher than the width of the widest street or alley measured from curb to curb upon which such building faces or has its principal entrance. In estimating the height of such building the distance the building sets back from the curb line shall be added to the width of the street or alley.

Section 687. Buildings of class IIIc hereafter erected less than three (3) stories in height shall have a least horizontal dimension of not less than fourteen (14) feet. Such buildings three (3) stories or more in height shall have a least horizontal dimension of not less than sixteen (16) feet.

Section 688. (a) Buildings of class IIIc hereafter erected shall be made rat proof in the following manner: The voids or spaces usually left open between the underside of the first floor and the top of the foundation wall and between the joists set on the foundation wall, and the voids or spaces between the studdings in walls and partitions and between the furring and the walls to a height of four (4) inches above the floor level of all floors, shall be filled in compactly with brick, stone, cement or concrete.

(b) There shall be no opening or openings in the first floor which may lead into concealed spaces in the walls or partitions above.

Section 689. (a) Buildings of class IIIc hereafter erected shall have a yard not less than twenty (20) feet in depth exclusive of the porches; except that, where there is more than one (1) building or lot, the distance between the buildings may be counted in lieu of the yard.

(b) Buildings of this class will be permitted in the rear of other buildings which are not more than three (3) stories in height; provided that, such buildings of this class either have an unobstructed street frontage or front on an alley or street not less than twenty (20) feet wide; and provided further that, there is not less than twenty (20) feet between the buildings.

(c) All rear buildings of this class shall front or have their principal entrance on the rear street or alley, as the case may be. Access to all dwellings shall be through the street or alley on which such building faces or has its principal entrance.

(d) Where fences are constructed they shall be not more than four (4) feet in height unless made of wire netting or of pickets not more than two (2) inches in width placed not closer together than two (2) inches.

Section 690. No buildings of class IIIc hereafter erected shall hereafter be enlarged or its lot be diminished so as to reduce the yard or unoccupied area of the lot so that it will be less than is required by this act.

Section 691. (a) Every building of class IIIc hereafter erected shall have a cellar or basement which shall be at least eight (8) feet in depth; provided that, such building may be built upon piers so as to allow two (2) feet of clear space underneath the building; such space to be entirely enclosed by wire netting or lattice work.

(b) Every building shall have the first floor level at least two (2) feet above the grade or the surface of the ground where there is no grade, and where such building has a cellar or basement the same shall be lighted and ventilated by windows having an aggregate area of at least six (6) square feet. All basements or cellars shall be efficiently drained.



(c) When the first floor is constructed of other than approved fire-resistive materials, the underside thereof shall be exposed and shall be painted with an approved fire-resistive solution or with white wash as often as the Local or State Fire Marshal may require.

(d) The bottom of the cellar or basement, as the case may be, shall be covered with cement or concrete laid so as to be impervious to moisture not less than four (4) inches in thickness; and all flooring shall be laid on top of such cement or concrete.

(e) Only one (1) cellar or one (1) basement will be permitted.

(f) No living room will be permitted in the cellar, and no cellar shall be used for living purposes. Living rooms in basement will be permitted; provided that, the walls are made damp proof subject to the approval of the Local Board of Health or State Department of Health; and provided further that, no such room and no part of the basement shall be used for sleeping purposes.

(g) All windows in basements or cellars shall be so constructed that they will open for one-half ( $\frac{1}{2}$ ) their full area.

(h) In two (2) family dwellings there shall be at least one (1) entrance to the cellar or basement, as the case may be, on the outside of the building; and there shall be partitions without openings in the cellar or basement which shall extend from the bottom thereof to the first floor beams, dividing the cellar or basement in such manner as to permit each family to occupy exclusively a part of the basement or cellar. Access to such parts may be had from the outside of the building or by a common entrance hall.

Section 692. (a) Where courts are used in connection with buildings or class IIIc hereafter erected, outer courts and lot line courts shall have a least dimension of not less than four (4) feet; provided that, where such courts are more than twenty (20) feet in depth, the least dimension shall be increased at least two (2) feet for every additional ten (10) feet of depth or fractional part thereof. Inner courts shall have a least dimension of not less than sixteen (16) feet.

(b) All courts shall be graded and efficiently drained and may be required to be paved in the discretion of the Local Board of Health or State Department of Health where necessary to secure proper drainage.

Section 693. (a) In buildings of class IIIc hereafter erected the roofs shall be drained with rain conductors for their full width. Such rain conductors shall be so constructed that the water shall run in metal leaders and if in the judgment of the Local Board of Health or State Department of Health it shall be deemed necessary such metal leaders shall be connected with the artificial drainage system when there is such a system.

(b) If there is not an artificial drainage system, such leaders shall terminate at a point not more than one (1) foot from the surface of the ground.

(c) No sink, water-closet or drain of any kind shall empty into a rain conductor or discharge onto a roof draining to a rain conductor.

Section 694. (a) Every building of class IIIc hereafter erected shall have at least one (1) opening onto a flue in every apartment.

(b) Where there is not more than one (1) opening onto a flue throughout its entire length the flue area shall be not less than fifty (50) square inches. Where there is more than one (1) opening onto a flue throughout its entire length the flue area shall be not less than eighty (80) square inches. All flues shall be constructed as required by this act.

Section 695. (a) Buildings of class IIIc hereafter erected shall have at least two (2) means of egress located as far apart as practicable.

(b) Such buildings shall have at least one (1) stairway at least three (3) feet extending between each floor.

(c) Where such buildings are more than two (2) stories in height there shall be at least two (2) such stairways between each floor.

(d) In two (2) family dwellings there shall be direct access from the dwelling to the yard for each family without going off of the lot upon which the building is situated.

Section 696. (a) All buildings of class IIIc hereafter erected shall have at least one (1) living room of at least one hundred and fifty (150) square feet of area. All other living rooms except the kitchen, bath room and water-closet compartment shall be at least one hundred (100) square feet in area.

(b) The least dimension of bath rooms or water-closet compartments shall be not less than four (4) feet, and the least dimension of all other living rooms shall be not less than eight (8) feet.

(c) The height of the first story shall be not less than nine (9) feet and the height of the other stories shall be not less than eight (8) feet.

(d) Living rooms in attics of such buildings shall be not less than four (4) feet high in their lowest part, and shall be at least eight (8) feet in height over an area of at least one hundred (100) square feet.

Section 697. (a) In buildings of class IIIc hereafter erected living rooms shall have an aggregate glass surface in windows of not less than twelve (12) square feet provided it is never less than one-tenth (1-10) of the total floor area.



(b) Water-closet compartments and bath rooms shall have an aggregate glass surface of windows or of skylights of at least six (6) square feet of area, provided that it is never less than one twelfth (1-12) of the floor area of the room.

(c) At least one (1) window in rooms required by this act to have windows shall be at least six (6) feet away from any building structure or lot line.

(d) All windows or skylights shall be capable of being opened for one-half ( $\frac{1}{2}$ ) of their full width.

Section 698. (a) In buildings of class IIIc hereafter erected the entrance hall shall be adequately lighted by natural light.

(b) In two (2) family dwellings common halls shall be adequately lighted by natural light, and there shall be at least one (1) window to the outside of the building which shall be adequate to light the entire hall; provided that, skylights will be permitted in lieu of windows above the first story.

(c) All windows and skylights shall be capable of being opened to one-half ( $\frac{1}{2}$ ) their full width.

Section 699. In buildings of class IIIc hereafter erected used as two (2) family dwellings the Local Board of Health or State Department of Health may in its discretion when necessary to improve lighting require the walls and ceilings of common halls, cellars and basements to be painted, whitewashed, kalsomined or papered in white or some other light color.

Section 700. (a) Buildings of class IIIc hereafter erected, fronting upon or within one hundred (100) feet of a public water main or public sewer shall be provided with a plumbing system and connection with such water main or sewer or both.

(b) At any time that any such public water main or sewer shall be extended to be within one hundred (100) feet of any such building, such building shall be provided with a plumbing system and connection with such water main or sewer or both; and until such connection has been made no such building shall be occupied for the purposes of this class.

(c) When connection with the public water main or sewer system, as provided in this section, is obtainable, all privy vaults and cesspools shall be removed or filled in a manner satisfactory to the Local Board of Health or State Department of Health.

Section 701. (a) In buildings of class IIIc hereafter erected where a plumbing system is required under the provisions of this act they shall have at least one (1) water-closet within the building or attached thereto in such a manner that the same may be entered immediately from the building. The floor and wall surface of

the water-closet compartment or of the room containing the water-closet shall be maintained in good repair and in a cleanly condition. One (1) entrance to at least one (1) water-closet compartment shall be by means of a hall or passageway independent of a room used for sleeping purposes.

(b) Where such building is used as a two (2) family dwelling there shall be at least one (1) water-closet for each family within each apartment. One entrance to at least one water-closet compartment in each apartment shall be by means of a hall or passageway independent of rooms used for sleeping purposes.

(c) Nothing in this section shall be construed to prevent a water-closet, bath and lavatory being placed in the same room.

(d) Water-closets will be permitted in cellars; provided that, they are lighted by windows opening to the outer air, having an aggregate glass surface of four (4) square feet. If areaways are used the width of the areaway shall be equal to the height from the lowest window sill to the coping at the surface of the ground. All such water-closet compartments shall be at least seven (7) feet in height.

Section 702. (a) Buildings of class IIIc hereafter erected where a sewer is not accessible, shall have a privy vault or cesspool in connection therewith located in the yard and constructed subject to the approval of the Local Board of Health or State Department of Health.

(b) Such privy vault or cesspool shall be cleaned to the bottom whenever the contents come to within three (3) feet of the level of the ground outside or within three (3) feet of the bottom of the privy house, if such bottom is below the level of the surrounding ground.

(c) It shall be the duty of the owner in one (1) family dwellings to keep this privy vault cleaned in the manner required in this section, and to correct the same with lime whenever it becomes foul. In two (2) family dwellings this duty shall devolve upon the owner.

(d) A private sewer system using septic tanks may be installed subject to the approval of the Local Board of Health or State Department of Health.

Section 703. In buildings of class IIIc hereafter erected all plumbing shall be installed in accordance with the provisions of this act and all plumbing pipes shall be exposed except where passing through floors, walls or partitions. Where plumbing or other pipes pass through floors, walls or partitions the openings around such pipes shall be sealed or made air tight with plaster or iron ferrules.

Section 704. (a) There shall be at least one (1) sink and one (1) source of water supply for every building of class IIIc here-



after erected. In two (2) family dwellings there shall be at least one (1) sink and one (1) source of water supply within each apartment.

(b) Where there is no connection with a public water main or the same is not obtainable as required by this act a private water supply may be used subject to the approval of the Local Board of Health or State Department of Health.

Section 705. In buildings of class IIIc hereafter erected no room or any portion of the same shall be occupied or permitted to be occupied at any time by more persons than would give to each occupant over twelve (12) years of age at least four hundred (400) cubic feet of air space, and for each occupant twelve (12) years of age or under, two hundred (200) cubic feet of air space.

Section 706. (a) Whenever any building of class IIIc hereafter erected, or any part thereof, is unfit for human habitation or dangerous to life or health by reason of want of repairs or defects in the drainage, plumbing, ventilation or sanitation or by reason of the existence on the premises of a nuisance likely to cause sickness among the occupants of such building, the Local Board of Health or State Department of Health may issue an order requiring all persons therein to vacate such building or part thereof within not less than twenty-four (24) hours nor more than ten (10) days. The reasons for such orders shall be fully stated in the order.

(b) The Local Board of Health or State Department of Health is hereby given summary power to enforce such order and any expense necessarily incurred in enforcing this order shall be recoverable against the owner of the building in the same manner as debts of like amount are by law recoverable.

Section 707. (a) In buildings of class IIIc hereafter erected whenever the paper on the ceiling or walls of any room has become loosened so as to collect and hold dust the same shall be removed, the walls thoroughly cleansed and new wall paper, kalsomine, paint or other satisfactory substitute shall be put on.

(b) No wall paper shall be placed upon the walls of any room of any such building where there has been a case of contagious or infectious disease, unless all paper thereon has been removed, and the walls thoroughly cleansed by some satisfactory disinfectant.

Section 708. No building of class IIIc hereafter erected, nor any part thereof nor any building within thirty (30) feet thereof, shall be used as a place of storage, keeping or handling of feed, hay, straw, excelsior, cotton, paper stock, feathers or rags or anything of a highly inflammable or noisome character.

**Section 710. (a)** No horse, cow, calf, swine, sheep, goat, pigeons, chickens or other fowl shall be kept or slaughtered in any building of class IIIc hereafter erected.

**(b)** Any of the aforesaid animals or fowl may be kept on the premises subject to the approval of the Local Board of Health or State Department of Health.

**Section 710. (a)** No part of any building of class IIIc hereafter erected shall be used by the tenant, members of his family or others for manufacturing purposes or for other than domestic work without a permit from the Local Board of Health or State Department of Health. Such permit, if issued, shall expire not later than the calendar year for which it is issued. No such permit shall be granted if such use would create dust, foul odors or undue noise liable to affect injuriously the health or comfort of the tenant, occupants or neighbors; or which, for any reason, would affect injuriously the health and safety of those engaged in such manufacturing or other work.

**(b)** Such permit shall be subject to revocation by the Local Board of Health or State Department of Health at any time for the same reason for which it may refuse to issue the same. No such room or rooms when used for manufacturing purposes shall be occupied at one time by more persons than would give to each occupant four hundred (400) cubic feet of air space.

**Section 711.** In buildings of class IIIc hereafter erected where any part thereof is used as a paint or oil shop or for any kind of a store where highly inflammable materials are kept, such part shall be separated from the rest of the building by walls of approved fire-resistive materials or by walls and ceilings covered with approved fire-resistive plaster laid on metal lath. There shall be no openings in such ceilings and all openings in such walls shall be provided with an approved self-closing fire door, except that openings used for windows may be covered with wired glass set in metal frames.

**Section 712. (a)** It shall be the duty of each family occupying buildings of class IIIc hereafter erected to keep that portion of the building or the premises surrounding the building occupied by them exclusively free from all accumulation of dirt, filth, garbage or other refuse.

**(b)** It shall be the duty of the owner to keep all portions of such building, or of the premises about such building that are occupied or used jointly by more than one (1) family, free from all accumulation of dirt, filth, garbage or other refuse, and it shall be his duty further to report violation of this section to the Local Board of Health or State Department of Health.



(c) Any person who shall cause or permit any dirt, filth, garbage or other refuse to be cast into a yard, shaft, court or areaway in or about any such building or who shall commit any other nuisance in or about such building shall be deemed guilty of violating the provisions of this section, and shall be subject to the penalties as herein in this act provided.

Section 713. The owner, tenant, lessee or agent of all buildings of class IIIc hereafter erected shall provide approved metal receptacles for ashes, rubbish, garbage and other refuse. Chutes or shafts for the disposal of ashes, rubbish, garbage and other refuse are prohibited.

Section 714. Nothing in this act shall be construed to prevent cities, boroughs or townships from passing laws, ordinances or regulations requiring or pertaining to licensing of any building of class IIIc hereafter erected used as a two' (2) family dwelling.

Special Requirements for Buildings of Class IIIc Prior Erected.—  
Dwellings.

Section 715. In class III shall be included buildings in which people are lodged and housed.

- (a) Tenement and Apartment Houses.
- (b) Hotels, Apartment Hotels and Club Houses.
- (c) Dwellings.
- (d) Lodging Houses and Rooming Houses.

Section 716. (a) The following special requirements for buildings of class IIIc prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 717. (a) Buildings of class IIIc prior erected of frame construction more than three (3) stories in height shall have at least two (2) stairways located as far apart as practicable, one of which may be an outside stairway.

(b) Such buildings of frame construction more than four (4) stories in height are prohibited, and it shall be the duty of the State Building Commissioner or Chief Building Inspector to order vacated and to close all such buildings.

Section 718. Buildings of class IIIc prior erected shall not hereafter be enlarged or their lots be diminished to reduce the yard so that it will be less than is required for a yard of buildings of class IIIc hereafter erected.

Section 719. Before any building of class IIIc prior erected is altered or reconstructed in compliance with the provisions of this act the plans for such alteration or reconstruction shall, besides being submitted to the State Building Commissioner or Chief Inspector be submitted to the Local Board of Health or State Department of Health for its approval of said plans and of the sanitary conditions of the surrounding ground. No alteration or reconstruction will be permitted until such approval is obtained and endorsed on the plans.

Section 720. (a) Buildings of class IIIc prior erected shall be made rat proof in the following manner: The void or space usually left open between the underside of the floor of the first story and the top of the foundation wall and between the joists set upon the foundation wall shall be filled in compactly with stone, cement or concrete.

(b) There shall be no opening or openings in the first floor which may lead into concealed spaces in the walls or partitions above.

Section 721. The cellar of buildings of class IIIc prior erected or the basement where there is no cellar shall have a floor of cement or concrete laid so as to be impervious to moisture not less than four (4) inches in thickness. All wooden floor covering or flooring shall be placed on top of the cement or concrete.

Section 722. (a) The cellar of buildings of class IIIc prior erected shall wherever practicable be so ventilated as to secure a constant supply of fresh air and shall be lighted by windows.

(b) There shall be no living room in a cellar and such cellar shall not be used for living purposes.

Section 723. Rooms in basements in buildings of class IIIc prior erected shall not be used as living rooms unless such basement is at least seven (7) feet in height, and unless the walls are made damp proof subject to the approval of the Local Board of Health or State Department of Health. In addition such living rooms in the basement shall have a window area of at least twelve (12) square feet and at least one-tenth (1-10) of the floor area; such windows to be located entirely above the ground. Such windows shall be so constructed as to open for one-half ( $\frac{1}{2}$ ) their area.

Section 724. (a) The common halls of buildings of class IIIc prior erected used as two (2) family dwellings shall be adequately lighted, and wherever possible, by natural light. Wherever possible windows shall be provided; except that, above the first story skylights may be substituted.

(b) Wherever in the opinion of the Local Board of Health or State Department of Health it is not practicable to light halls in this man-



ner, translucent glass panels of at least four (4) feet square in area, placed in walls or in doors or in transoms above doors leading into rooms whose windows lead directly to the outer air, may be substituted.

Section 725. In buildings of class IIIc prior erected used as two (2) family dwellings the Local Board of Health or State Department of Health may in its discretion, when necessary to improve lighting, require the walls and ceilings of common halls, cellars, basements to be painted, whitewashed, kalsomined or papered white or some other light color.

Section 726. (a) In buildings of class IIIc prior erected roofs shall be drained with rain conductors for their full width. Such rain conductors shall be so constructed that the water shall run in metal leaders, and if deemed necessary by the Local Board of Health or State Department of Health such metal leaders shall be connected with the artificial drainage system where there is such system.

(b) If there is no artificial drainage system such leaders shall terminate at a point not more than one (1) foot from the surface of the ground, and the ground of all courts and yards shall be graded or paved in order to secure proper drainage and to maintain proper sanitary conditions wherever in the opinion of the Local Board of Health or State Department of Health it is necessary.

(c) No sink, water-closet or drain of any kind shall empty into a rain conductor or discharge onto a roof draining to a rain conductor.

Section 727. (a) Buildings of class IIIc prior erected fronting upon or within one hundred (100) feet of a public water main or public sewer shall be provided with a plumbing system and connection with such water main or sewer or both.

(b) At any time that any such public water main or sewer shall be extended to be within one hundred (100) feet of any such building, such building shall be provided with a plumbing system and connection with such water main or sewer or both, and until such connection has been made no such building shall be occupied for the purposes of this class.

(c) Where connection with the public water main or sewer system, as provided in this section, is obtainable all privy vaults, cesspools shall be removed or filled in a manner satisfactory to the Local Board of Health or State Department of Health.

Section 728. (a) In buildings of class IIIc prior erected where a plumbing system is required under the provisions of this act shall have at least one (1) water-closet within the building or

tached thereto in such a manner that the same may be entered immediately from the building. The floor and wall surface of the water-closet compartment or of the room containing the water-closet shall be maintained in good repair and in a cleanly condition. One (1) entrance to at least one (1) water-closet compartment shall be by means of a hall or passageway independent of a room used for sleeping purposes.

(b) Where such building is used as a two (2) family dwelling there shall be at least one (1) water-closet for each family within each apartment.

(c) Nothing in this section shall be construed to prevent a water-closet, bath and lavatory being placed in the same room.

Section 729. (a) Buildings of class IIIc prior erected, where a sewer is not accessible, shall have a privy vault in connection therewith located in the yard and constructed subject to the approval of the Local Board of Health or State Department of Health.

(b) Such privy vault shall be cleaned to the bottom whenever the contents come to within three (3) feet of the level of the ground outside or within three (3) feet of the bottom of the privy house, if such bottom is below the level of the surrounding ground.

(c) It shall be the duty of the owner of all dwellings to keep this privy vault cleaned in the manner required in this section, and to correct the same with lime whenever it becomes foul.

Section 730. (a) There shall be at least one (1) sink and one (1) source of water supply for every building of class IIIc prior erected. In two (2) family dwellings there shall be at least one (1) sink and one (1) source of water supply within each apartment.

(b) Where there is no connection with a public water main or the same is not obtainable as required by this act a private water supply may be used subject to the approval of the Local Board of Health or State Department of Health.

Section 731. In buildings of class IIIc prior erected all plumbing shall be installed as required by this act, and where any plumbing is hereafter installed all plumbing pipes shall be exposed except where passing through walls or partitions. In such case the openings around such pipes shall be sealed or made air tight with plaster or iron ferrules.

Section 732. In buildings of class IIIc prior erected no room or any portion of the same shall be occupied or permitted to be occupied at any one time by more persons than would give to each occupant over twelve (12) years of age at least four hundred (400) cubic feet of air space, and for each occupant twelve (12) years or under in age, two hundred (200) cubic feet of air space.



Section 733. (a) Whenever buildings of class IIIc prior erected or any part thereof, are unfit for human habitation or dangerous to life or health by reason of want of repairs or defects in the drainage, plumbing, ventilating or sanitation or by reason of the existence on the premises of a nuisance likely to cause sickness among the occupants of such buildings, the Local Board of Health or State Department of Health may issue an order requiring all persons therein to vacate such building or part thereof within not less than twenty-four (24) hours nor more than ten (10) days. The reason for such orders shall be fully stated in the order.

(b) The Local Board of Health or State Department of Health is hereby given summary power to enforce such orders and any expense necessarily incurred in enforcing this order shall be recoverable against the owner of the building in the same manner as debts of like amount are by law recoverable.

Section 734. (a) In buildings of class IIIc prior erected whenever the paper on the ceiling or walls of any room has become loosened so as to collect and hold dust the same shall be removed, the walls thoroughly cleansed and new wall paper, kalsomine, paint or other satisfactory substitute shall be put on.

(b) No wall paper shall be placed upon the walls of any room of any such building where there has been a case of contagious or infectious disease, unless all paper thereon has been removed, and the walls thoroughly cleansed by some satisfactory disinfectant.

Section 735. No building of class IIIc prior erected nor any part thereof, nor any building within thirty (30) feet thereof shall be used as a place of storage, keeping or handling of feed, hay, straw, excelsior, cotton, paper stock, feathers or rags, or anything of a highly inflammable or noisome character.

Section 736. (a) No horse, cow, calf, swine, sheep, goat, pigeons, chickens or other fowl shall be kept or slaughtered in any building of class IIIc prior erected.

(b) Any of the aforesaid animals or fowl may be kept on the premises subject to the approval of the Local Board of Health or State Department of Health.

Section 737. (a) No part of any building of class IIIc prior erected shall be used by the tenant, members of his family or other persons for manufacturing purposes or for other than domestic work without a permit from the Local Board of Health or State Department of Health. Such permit, if issued, shall expire not later than the calendar year for which it is issued. No such permit shall be granted if such use would create dust, foul odors or undue noise liable to affect injuriously the health or comfort of the tenant, occupants or

neighbors or which, for any reason, would affect injuriously the health and safety of those engaged in such manufacturing or other work.

(b) Such permit shall be subject to revocation by the Local Board of Health or State Department of Health at any time for the same reason for which it may refuse to issue the same. No such room or rooms when used for manufacturing purposes shall be occupied at one time by more persons than would give to each occupant four hundred (400) cubic feet of air space.

Section 738. In buildings of class IIIc prior erected where any part thereof is used as a paint or oil shop or for any kind of a store where highly inflammable materials are kept, such part shall be separated from the rest of the building by walls of approved fire-resistant materials. There shall be no openings in such ceilings and all openings in such walls shall be provided with an approved self-closing hinged fire door; except that, openings used for windows may be covered with wired glass set in metal frames.

Section 739. (a) It shall be the duty of each family occupying buildings of class IIIc prior erected to keep that portion of the building or the premises surrounding the building occupied by them exclusively free from all accumulation of dirt, filth, garbage or other refuse.

(b) It shall be the duty of the owner to keep all portions of such building, or of the premises about such building that are occupied or used jointly by more than one (1) family, free from all accumulation of dirt, filth, garbage or other refuse, and it shall be his duty further to report violations of this section to the Local Board of Health or State Department of Health.

(c) Any person who shall cause or permit any dirt, filth, garbage or other refuse to be cast into a yard, shaft, court or areaway in or about any such building or who shall commit any other nuisance in or about such building shall be deemed guilty of violating the provisions of this section, and shall be subject to the penalties as herein in this act provided.

Section 740. The owner, tenant, lessee or agent of buildings of class IIIc prior erected shall provide approved metal receptacles for ashes, rubbish, garbage and other refuse. Chutes or shafts for the disposal of ashes, rubbish, garbage and other refuse are prohibited.

Section 741. Nothing in this act shall be construed to prevent cities, boroughs or townships from passing laws, ordinances or regulations requiring or pertaining to licensing of buildings of class IIIc prior erected used as two (2) family dwellings.



Special Requirements for Building of Class IIId Hereafter Erected.  
—Lodging Houses and Rooming Houses.

Section 742. In class III shall be included buildings in which people are lodged and housed.

- (a) Tenement and Apartment Houses.
- (b) Hotels, Apartment Hotels and Club Houses.
- (c) Dwellings.
- (d) Lodging Houses and Rooming Houses.

Section 743. (a) The following special requirements for buildings of class IIId hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 744. Buildings of class IIId hereafter erected shall be so designed and constructed that the floors and treads and landings of stairways shall safely sustain in addition to the weight of the floor and stairway construction, partitions, permanent fixtures and mechanisms a live load of fifty (50) pounds on every square foot of surface. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 745. (a) Buildings of class IIId hereafter erected shall not be occupied in whole or in part for human habitation until the issuance by the State Building Commissioner or Chief Building Inspector of a certificate that the said buildings conform to the requirements of this act, nor until the issuance of a certificate by the Local Board of Health or State Department of Health that said buildings conform to the requirements of this act relative to light, ventilation, plumbing, drainage and sanitation. Within five (5) days from date of application for any certificate above mentioned, such certificate shall be issued, or the official concerned shall state in writing his reasons for his refusal to issue said certificate.

(b) If any building of this class is occupied as a place of habitation in any of its parts in violation of this section, it shall forthwith be subject to notice from the State Building Commissioner or Chief Building Inspector or from the Local Board of Health or State Department of Health, and shall be vacated upon such notice and shall not again be occupied until made to conform to the provisions of this act.

Section 746. All plans for the erection or construction of buildings of class IIId hereafter erected, and all plans for the installation of heating or ventilating apparatus, lighting system, plumbing, fixtures, sinks or cesspools, besides being submitted to the State Building Commissioner or Chief Building Inspector, shall be submitted

to the Local Board of Health or State Department of Health for its approval of said plans and of the sanitary conditions surrounding the ground over which the proposed building is to be erected; and no permit for the erection or construction of any such building shall be issued until such approval has been obtained and endorsed on the plans.

Section 747. (a) At the time of applying for a permit for the erection of, alteration of, addition to, or moving of any building of class IIIId hereafter erected, or for the erection, alteration, adding to, or moving of, any building onto a lot upon which a building of class IIIId hereafter erected stands, the applicant shall submit to the State Building Commissioner or Chief Building Inspector a plan of the lot, showing the location and dimensions of the same, the relative position of the lot in reference to the nearest streets and alleys, and the portion to be occupied by the proposed building or by the building to be altered or added to or by the building to be moved thereon; also the position of any other building or building that may be on the lot.

(b) The measurements shall in all cases be taken at the ground level.

Section 748. (a) Whenever it is desired to change the use of any building of any other class erected or converted prior to the passage of this act to the uses or purposes of class IIIId, the owner shall notify the State Building Commissioner or Chief Building Inspector and the Local Board of Health or State Department of Health and shall submit to such officers, as the case may be, a statement in writing describing the building, the uses of which he proposes to change, its street number, its present use, and giving such further information as such officer or officers, as the case may be, may require. It shall thereupon become the duty of such officer or officers, as the case may be, to immediately make an inspection and ascertain if such building meets with the requirements of this act relating to building of class IIIId hereafter erected.

(b) If upon inspection the State Building Commissioner or Chief Building Inspector and the Local Board of Health or State Department of Health find that such building complies with all the requirements relating to buildings of class IIIId hereafter erected they shall then issue a permit authorizing the use of such building for the purposes of class IIIId, and no such building shall be occupied for such purposes until such a permit shall be first had and obtained.

(c) When a permit has been issued under the provisions of this section, it shall be the duty of the owner or agent of such building before occupying the same for the purpose for which the permit is



issued, to post and permanently keep the same in a conspicuous place in the principal corridor of the building near the entrance.

Section 749. (a) Buildings of class IIIId hereafter erected, three (3) stories or more in height shall be of fire-resistive construction.

(b) Such building not more than two (2) stories in height may be of mill construction or ordinary construction.

(c) Such buildings not more than one (1) story in height may be of frame construction.

Section 750. (a) Buildings of class IIIId hereafter erected shall be made rat proof in the following manner: The space usually left open between the under side of the floor of the first story and the top of the foundation wall and between the joists set on the foundation wall, and the space between the studdings to a height of four (4) inches above the first and second story floor levels, shall be filled in compactly with brick, stone, cement, concrete or some other approved substance.

(b) If fire stops are provided in such buildings they shall be deemed to comply with the provisions of this section.

(c) There shall be no opening in the ceiling of the cellar or basement which may lead into concealed spaces in the walls or partitions above.

Section 751. In buildings of class IIIId hereafter erected no wall containing windows shall be placed opposite any other building, structure, or lot line nearer than eight (8) feet.

Section 752. The walls of bay windows, courts and vent shafts of buildings of class IIIId hereafter erected, except those which are permitted to be of frame construction, shall be built of approved fire-resistive materials.

Section 753. Buildings of class IIIId hereafter erected shall have either a basement or a cellar at least eight (8) feet deep, and the foundation walls of all such buildings shall extend to a distance of at least eight (8) feet below the mean surface level of the ground.

Section 754. Every basement or cellar of buildings of class IIIId hereafter erected shall have a floor of cement or concrete laid so as to be impervious to water and not less than four (4) inches in thickness, laid on not less than six (6) inches of sand, cinders, gravel, crushed stone or other approved material.

Section 755. In the floors and walls of every building of class IIIId hereafter erected there shall be some approved sound proofing material installed in an approved manner.

Section 756. (a) Buildings of class IIIId hereafter erected shall be not more than one and one-half ( $1\frac{1}{2}$ ) times the widest street meas-

**Section 772.** (a) In buildings of Class IIIId hereafter erected shops or stores dealing in paint, oil or other inflammable materials are prohibited.

(b) Shops or stores dealing in materials that are not easily inflammable will be permitted provided that there is no communication between such shops and stores on the inside of the building with the other parts of the building; except that, in such buildings of fire-resistive construction, baking establishments will be permitted with a dumbwaiter opening into the bakery below and the store above, provided that it is entirely enclosed in a shaft constructed with walls of approved fire-resistive materials. No other openings will be permitted and the doors shall be approved fire doors so arranged that when one is open, or partly open, the other will be closed.

**Section 773.** (a) Furnaces, hot water heating boilers and low pressure steam boilers may be located in buildings of class IIIId hereafter erected; provided that, the heating apparatus, fuel room and firing room are included in a room the walls and ceiling of which are composed of approved fire-resistive materials; and provided further that, all openings into the same from the other parts of the building are covered by approved self-closing hinged fire doors.

(b) No such room shall be located under any lobby, exit, stairway or common hall.

(c) No cast iron boiler operated at more than ten (10) pounds pressure or steel boiler operated at more than thirty-five (35) pounds pressure shall be located within the main walls of any such building.

(d) All piping leading from the heater room to the risers shall be covered with an approved pipe covering at least one (1) inch in thickness.

**Section 774.** (a) Buildings of Class IIIId hereafter erected fronting upon or within one hundred (100) feet of any street having either a water main or sewer or both shall be provided with a plumbing system and connection with such water main or sewer or both, and until such time no such building shall be occupied.

(b) Should any such building not be within one hundred (100) feet of any street having either a water main or sewer or both, and should such water main or sewer or both subsequently be installed or extended to within one hundred (100) feet of such building, then such building shall immediately be provided with a plumbing system and a connection with such water main or sewer or both; and until such connection has been made no such building shall be occupied for the purposes of this class.

(c) Where a public water main or sewer or both are not available, a private water and sewer system may be installed subject to the approval of the Local Board of Health or State Department of



which is shut off from any other part of such hall by a door shall be deemed a separate hall within the meaning of this section. Such common hall shall be adequately lighted in all its parts.

(b) One (1) at least of such windows provided in paragraphs (a) shall be at least two (2) feet six (6) inches high measured between stop beads. On the top story, in lieu of such window, there may be a ventilating skylight having a minimum opening of forty (40) square inches; or such skylight may have either fixed or movable louvres, providing there is a ventilating opening of forty (40) square inches.

(c) Stair wells are prohibited.

(d) Openings or wells through floors are prohibited.

Section 770. (a) Inner courts of buildings of class IIIId hereafter erected shall have a least dimension of not less than sixteen (16) feet.

(b) Where lot line courts of buildings on adjoining lots are opposite each other and for their whole length, the least dimension of each lot line court shall be not less than eight (8) feet. There shall be no fence or partition in such courts for all or any portion of their height.

(c) Outer courts shall have a least dimension of not less than sixteen (16) feet.

(d) Every inner court and every lot line court shall be connected directly with a street, alley, yard or outer court by a passageway extending from the ground level of such street, alley, yard or outer court to the ground level of such inner court and lot line court. Such passageway shall be at least four (4) feet wide and eight (8) feet high. There shall be no steps or risers in such passageway, and no rise of more than one (1) foot in ten (10) feet. Such passageway shall be enclosed by walls of approved fire-resistive materials at least four (4) inches thick, and such passageway and such inner and lot line court shall be kept free of obstruction of any kind, including snow, ice, and waste material.

(e) Such passageways may be provided at the outer side with a door which shall open outward. Such door shall not be locked or fastened in any manner but may be self-closing.

(f) Courts shall be open and unobstructed from the ground to the sky, and shall not be covered with a skylight or other covering.

(h) Corners of courts may be cut off by walls containing windows, provided such walls are not more than four (4) feet in length. In such case the least dimensions of courts as provided in this section shall be estimated between the outer faces of the main walls of the courts.

Section 771. The bottom of all shafts, courts, and yards of buildings of Class IIIId hereafter erected shall be provided with efficient *drainage*.

**Section 780.** (a) Sleeping stalls will not be permitted in any room of buildings of Class IIIId hereafter erected, unless such room has two (2) or more windows which open directly upon a street, alley, yard or court. Such windows shall have a total glass area equal to at least one-tenth (1-10) of the floor area.

(b) The top of partitions shall not be more than seven (7) feet from the floor nor less than two (2) feet from the ceiling, and there shall be a space of at least four (4) inches between the lower part of such partition and the floor covered with an approved screen with a mesh not greater than one (1) inch. Such partitions shall be of approved fire-resistive materials.

(c) Each stall shall open directly into a passageway leading directly to a stairway or fire escape.

(d) In every room in which there are sleeping stalls there shall be at least four hundred (400) cubic feet of air space for every person whom the room is designed to accommodate.

(e) There shall be at least one (1) shower bath in every such building for every fifty (50) beds or fractional part thereof. Bath tubs shall be provided in the ratio of at least one (1) for every twenty-five (25) beds or fractional part thereof. All shower baths and bath tubs shall be provided with hot and cold running water and shall be accessible for the use of lodgers at all times.

**Section 781.** (a) In buildings of Class IIIId hereafter erected there shall be water-closets in the ratio of at least one (1) to every fifteen (15) persons or fractional part thereof designed to be accommodated.

(b) Water-closet compartments shall be ventilated by means of a window opening to the outer air and provided with movable sash.

(c) No gas or offensive odors shall be allowed to escape from any water-closet, sewer or outlet into any sleeping room or part thereof.

(d) No person shall be allowed to sleep in any room in which there is a water-closet.

(e) All water-closets, wash-basins, baths, windows, fixtures, fittings and panelled surfaces shall at all times be kept thoroughly clean and in good repairs.

**Section 782.** (a) Buildings of Class IIIId hereafter erected shall have at least one (1) fire escape.

(b) Where such building is designed to accommodate more than two hundred (200) persons it shall have at least two (2) such fire escapes and for each additional two hundred (200) or fractional part thereof it shall be provided with one (1) additional fire escape.

(c) All fire escapes shall be located at the ends of common halls where such common halls extend to an exterior wall. Where such common halls do not extend to exterior walls access to the fire es-



escapes shall be by means of an auxiliary hall not less than three (3) feet in width, and shall in no case lead through any room.

(d) The location of all fire escapes shall be determined by the State Building Commissioner or Chief Building Inspector subject to the provisions of this section.

(e) Exits leading to fire escapes shall be equipped with approved doors which shall not be locked or fastened at any time.

Section 783. (a) The halls and stairways of buildings of Class IIIId hereafter erected shall be properly lighted at night. A red light shall be kept lighted during the night to indicate the exits to stairways and fire escapes, and a white light at the intersection of all hallways with the main corridors.

(b) At least one (1) alarm or gong capable of being heard throughout the house shall be provided in the office or in the principal corridor on the main floor, or there shall be an electric bell in each sleeping room capable of being operated from the office.

(c) Such buildings shall have a notice descriptive of all means of exit posted in a conspicuous place in every sleeping room.

(d) Exits to fire escapes shall lead directly to halls or corridors without going through any room.

Section 784. (a) It shall be the duty of every owner, agent, lessee or manager of buildings of Class IIIId hereafter erected more than two (2) stories high containing fifty (50) or more rooms to maintain one (1) competent watchman between the hours of nine (9) P. M. and seven (7) A. M.

(b) Each watchman shall hourly patrol the premises and a report of such patrol shall be automatically recorded in the office by a watchman's time clock.

#### Special Requirements for Buildings of Class IIIId Prior Erected.— Lodging Houses and Rooming Houses.

Section 785. In Class III shall be included buildings in which people are lodged and housed.

(a) Tenement and Apartment Houses.

(b) Hotels, Apartment Hotels and Club Houses.

(c) Dwellings.

(d) Lodging Houses and Rooming Houses.

Section 786. (a) The following special requirements for buildings of Class IIIId prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 787. Buildings of Class IIIId prior erected shall be so designed and constructed that the floors and treads and landings of stairways shall safely sustain in addition to the weight of the floor and stairway construction, partitions, permanent fixtures and mechanisms, a live load of fifty (50) pounds on every square foot of surface. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 788. (a) Buildings of Class IIIId prior erected, three (3) stories or more in height shall be of fire-resistive construction.

(b) Such buildings not more than two (2) stories may be of mill construction or ordinary construction.

(c) Such buildings not more than one (1) story in height may be of frame construction.

Section 789. (a) Buildings of Class IIIId prior erected shall be made rat proof in the following manner: The space usually left open between the under side of the floor of the first story and the top of the foundation wall and between the joists set on the foundation wall, and the space between the studdings to a height of four (4) inches above the first and second story floor levels, shall be filled in compactly with brick, stone, cement, concrete or some other approved substance.

(b) If fire stops are provided in such buildings they shall be deemed to comply with the provisions of this section.

(c) There shall be no opening in the ceiling of the cellar or basement which may lead into concealed spaces in the walls or partitions above.

Section 790. Every basement or cellar of buildings of Class IIIId prior erected shall have a floor of cement or concrete laid so as to be impervious to water and not less than four (4) inches in thickness, laid on not less than six (6) inches of sand, cinders, gravel, crushed stone or other approved material.

Section 791. No building of Class IIIId prior erected shall hereafter be enlarged or its lot be diminished so that a greater percentage of the lot shall be occupied by buildings or structures other than permitted for buildings of Class IIIId hereafter erected.

Section 792. (a) In buildings of Class IIIId prior erected there shall be at least one (1) bulkhead located in the ceiling of the common hall of the top story. It shall be of a size not less than twenty-four (24) inches by thirty (30) inches, and shall be covered on the outside with metal; access thereto shall be by means of stairs, having risers not more than eight (8) inches high and treads not less than nine (9) inches wide, and a hand rail three (3) feet high.



this act on the main floor. Such standpipe shall get its supply from the public water supply or in the absence of a public supply, a private water supply satisfactory to the Local or State Fire Marshal, and shall at all times be filled with water.

(b) There shall also be provided at each stairway on every floor at least two (2) approved two and one-half (2½) gallon chemical hand fire extinguishers.

(c) All fire apparatus shall be under the control of the Local or State Fire Marshal.

Section 838. (a) In buildings of Class IVa hereafter erected the location and position of all hand fire apparatus required by this act shall be determined by the Local or State Fire Marshal, and shall not be removed from that position except when actually in use or for purposes of instruction and inspection. When through, such apparatus shall be replaced in good working order. All hand fire extinguishers shall be fastened in position by a fine cord that may be easily broken, and such cord shall be sealed with a tag showing the date of sealing.

(b) Attached to the nozzle of all chemical hand fire extinguishers shall be a long needle of steel wire suitable for cleaning out the opening of the nozzle in case it should become clogged up.

Section 839. All employees engaged in or about buildings of Class IVa hereafter erected shall be required to know how to operate all fire apparatus in the building, and it shall be the duty of the person engaging such employees or operating such building to see that all employees are properly and thoroughly instructed.

Section 840. (a) Furnaces, hot water heating boilers and low pressure steam boilers may be located in buildings of Class IVa hereafter erected; provided that, the heating apparatus, fuel room and firing room are included in a room the walls and ceiling of which are constructed of approved fire-resistive materials; and provided further that, all openings into the same from the other parts of the building are covered by approved self-closing hinged fire doors.

(b) No such room shall be located under any lobby, exit, stairway or common hall.

(c) No cast iron boiler operated at more than ten (10) pounds pressure or steel boiler operated at more than thirty-five (35) pounds pressure shall be located within the main walls of any such building.

(d) All piping leading from the heater room to the risers shall be covered with an approved pipe covering at least one (1) inch thickness.

(e) Boilers used in such buildings shall be equipped with two (2) safety valves, one of which shall be tested, locked and sealed. Both safety valves shall be attached to the boiler without any intervening

Section 796. In buildings of Class IIId prior erected all fire escapes shall be kept in good order and repair, and no obstructions of any kind shall be placed in or upon them or in the passageway leading thereto, and it shall be the duty of the State Building Commissioner or Chief Building Inspector and the Local or State Fire Marshal to confiscate any property found in or upon such fire escapes.

Section 797. Buildings of Class IIId prior erected shall when feasible have at least one (1) window in every common hall opening to the outer air, and such common hall shall be adequately lighted by artificial light.

Section 798. The bottom of all shafts, courts and yards of buildings of Class IIId prior erected shall be provided with efficient drainage.

Section 799. (a) In buildings of Class IIId prior erected shops or stores dealing in paint, oil or other inflammable materials are prohibited.

(b) Shops or stores dealing in materials that are not easily inflammable will be permitted provided that there is no communication between such shops and stores on the inside of the building with the other parts of the building; except that, in such buildings of fire-resistive construction, baking establishments will be permitted with a dumbwaiter opening into the bakery below and the store above, provided that it is entirely enclosed in a shaft constructed with walls of approved fire-resistive materials. No other openings will be permitted and the doors shall be approved fire doors so arranged that when one is open, or partly open, the other will be closed.

Section 800. (a) Furnaces, hot water heating boilers and low pressure steam boilers may be located in buildings of Class IIId prior erected; provided that, the heating apparatus, fuel room and firing room are included in a room the walls and ceiling of which are composed of approved fire-resistive materials; and provided further that, all openings into the same from the other parts of the building are covered by approved self-closing hinged, fire doors.

(b) No such room shall be located under any lobby, exit, stairway or common hall.

(c) No cast iron boiler operated at more than ten (10) pounds pressure or steel boiler operated at more than thirty-five (35) pounds pressure shall be located within the main walls of any such building.

(d) All piping leading from the heater room to the risers shall be covered with an approved pipe covering at least one (1) inch in thickness.

Section 801. (a) Buildings of Class IIId prior erected fronting upon or within one hundred (100) feet of any street having either a



water main or sewer or both shall be provided with a plumbing system and connection with such water main or sewer or both, and until such time no such building shall be occupied.

(b) Should any such building not be within one hundred (100) feet of any street having either a water main or sewer or both, and should such water main or sewer or both subsequently be installed or extended to within one hundred (100) feet of such building, then such building shall immediately be provided with a plumbing system and a connection with such water main or sewer or both; and until such connection has been made no such building shall be occupied for the purposes of this class.

(c) Where a public water main or sewer, or both are not available, a private water and sewer system may be installed subject to the approval of the Local Board of Health or State Department of Health; but in no case shall a privy vault be maintained on the premises.

Section 802. In buildings of Class IIIId prior erected all plumbing pipes shall be exposed except where passing through floors, walls or partitions. Where plumbing or other pipes pass through floors, walls or partitions the openings around such pipes shall be sealed or made air tight with plaster or iron ferrules.

Section 803. (a) Whenever cesspools are permitted under this act, for buildings of Class IIIId prior erected they shall be placed in a yard and shall be covered with an iron cover, flush with the surface of the ground in such a way that there shall be convenient access to such cesspool.

(b) Where any such cesspool is located in any place or in any manner that renders it a menace to the lives and health of persons, the State Building Commissioner or Chief Building Inspector or the Local Board of Health or State Department of Health may order such cesspool removed or its location changed.

Section 804. No part of any building of Class IIIId prior erected shall be used by the tenant, members of his family, or others, for manufacturing purposes, or for other than domestic work, without a permit from the Local Board of Health or State Department of Health, and the permit, when issued, shall expire not later than the calendar year for which it is issued. No such permit shall be granted if such use would create dust, foul odors, or undue noise, liable to affect injuriously the health or comfort of the tenants, occupants, or neighbors, or for any reason would affect injuriously the health and safety of those engaged in such manufacturing or other work. The permit may be revoked by the Local Board of Health or State Department of Health at any time, for the same reason for which it may refuse to issue same. No such room or rooms, when

used for manufacturing purposes, shall be occupied at any one time by more persons than would give to each occupant at least four hundred (400) cubic feet of air space.

Section 805. The walls of all courts of buildings of Class IIId prior erected, unless built of a light color brick or stone, shall be thoroughly whitewashed by the owner or shall be painted a light color by him, and shall be so maintained. Such whitewash or paint shall be renewed whenever necessary as may be required by the Local Board of Health or State Department of Health.

Section 806. No wall paper shall be placed upon a wall or ceiling in buildings of Class IIId prior erected, unless all wall paper shall be first removed therefrom and said wall and ceiling thoroughly cleaned.

Section 807. (a) Sleeping stalls will not be permitted in any room of buildings of Class IIId prior erected, unless such room has two (2) or more windows which open directly upon a street, alley, yard or court. Such windows shall have a total glass area equal to at least one-tenth (1-10) of the floor area.

(b) The top of partitions shall be not more than seven (7) feet from the floor nor less than two (2) feet from the ceiling, and there shall be a space of at least four (4) inches between the lowest part of such partition and the floor covered with an approved screen with a mesh not greater than one (1) inch. Such partitions shall be of approved fire-resistive materials.

(c) Each stall shall open directly into a passageway leading directly to a stairway or fire escape.

(d) In every room in which there are sleeping stalls there shall be at least four hundred (400) cubic feet of air space for every person whom the room is designed to accommodate.

(e) There shall be at least one (1) shower bath in every such building, for every fifty (50) beds or fractional part thereof. Bath tubs shall be provided in the ratio of at least one (1) for every twenty-five (25) beds or fractional part thereof. All shower baths and bath tubs shall be provided with hot and cold running water and shall be accessible for the use of lodgers at all times.

Section 808. (a) In buildings of Class IIId prior erected there shall be water-closets in the ratio of at least one (1) to every fifteen (15) persons or fractional part thereof designed to be accommodated.

(b) Water-closet compartments shall be ventilated by means of a window opening to the outer air and provided with movable sash.

(c) No gas or offensive odors shall be allowed to escape from any water-closet, sewer or outlet into any sleeping room or part thereof.



Section 857. (a) Buildings of Class IVa prior erected and more than two (2) stories in height, shall have at least one (1) passenger elevator.

(b) The floor dimensions of such elevator shall be at least eight (8) feet by six (6) feet.

(c) Where passenger elevators are already installed in such buildings they may be retained subject to the approval of the State Building Commissioner or Chief Building Inspector.

Section 858. (a) Rooms in buildings of Class IVa prior erected used for the storage of furniture, or for carpenter shops, general repairing, paint shops, or for other equally hazardous purposes, shall either be enclosed with walls and ceilings built of approved fire-resistive materials, or the walls shall be lined on the inside with approved fire-resistive plaster laid on metal lath.

(b) All openings between these rooms and the other parts of the building shall be covered with approved self-closing hinged fire doors.

Section 859. No buildings of Class IVa prior erected shall be occupied so that there shall be less than six hundred (600) cubic feet of air space for each adult, and four hundred (400) cubic feet of air space for each child under the age of twelve (12) years. And it shall be the duty of the Local Board of Health or State Department of Health to order the number of persons occupying such building to be reduced to bring it into conformity with this section.

Section 860. (a) Buildings of Class IVa prior erected shall have at least one standpipe with fire hose as required in this act, when more than two stories in height; and shall have as many such standpipes and fire hose as may be necessary to reach every part of every floor.

(b) Such buildings shall be provided at each floor near the stairway with at least two (2) two and one-half (2½) gallon chemical hand fire extinguishers.

(c) All fire apparatus shall be under the control of the Local or State Fire Marshal.

Section 861. (a) In buildings of Class IVa prior erected the location and position of all hand fire apparatus required by this act shall be determined by the Local or State Fire Marshal, and shall not be removed from that position except when actually in use or for purposes of instruction and inspection. When through, such apparatus shall be replaced in good working order. All hand fire extinguishers shall be fastened in position by a fine cord that may be easily broken, and such cord shall be sealed with a tag showing the date of sealing.

## ARTICLE X.

Special Requirements for Buildings of Class IVa Hereafter Erected.—  
Hospitals, Pest Houses, Sanitariums, Benevolent Institutions.

Section 812. In Class IV shall be included buildings in which people are received, confined or restrained.

(a) Hospitals, Pest Houses, Sanitariums and Benevolent Institutions.

(b) Asylums, Penal Institutions and Places of Temporary Detention.

Section 813. (a) The following special requirements for buildings of Class IVa hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 814. (a) Buildings of Class IVa hereafter erected shall not occupy more than eighty (80) per cent. of a corner lot or more than sixty per cent. (60%) of the interior lot. All such unoccupied space shall be free and unobstructed from the ground to the sky. At least one-half ( $\frac{1}{2}$ ) of the unoccupied space required under this section shall be on some portion of the lot other than the street side.

(b) For the purposes of this section the measurements shall be taken at the ground level.

(c) Pest houses for the accommodation of patients afflicted with leprosy shall be located not less than five hundred (500) feet, and for patients afflicted with asiatic cholera or smallpox not less than two hundred (200) feet, from any other building, structure, thoroughfare or lot line of adjoining owner.

(d) Open buildings or shacks, used for the treatment or care of persons afflicted with tuberculosis shall not be placed nearer than thirty (30) feet to any other building, structure, thoroughfare or lot line of adjoining owner.

(e) No wall containing windows shall be placed nearer any other building, structure or lot line than sixteen (16) feet.

Section 815. No buildings of Class IVa hereafter erected shall hereafter be enlarged or its lot be diminished so that a greater percentage of the lot shall be occupied by buildings or structures other than as permitted under the provisions of this act. Should any such lot be so diminished the occupancy of such building for the purpose of Class IVa shall thereafter be prohibited.

Section 816. (a) At the time of applying for a permit for the erection of, alteration of, addition to, or moving of buildings of Class



IVa hereafter erected, or for the erection, alteration, adding to, or moving of any building onto a lot upon which a building of Class IVa hereafter erected stands, the applicant shall submit to the State Building Commissioner or Chief Building Inspector a plan of the lot, showing the location and dimensions of the same, the relative position of the lot in reference to the nearest streets and alleys, and the portion to be occupied by the proposed building or by the building to be altered or added to or by the building to be moved thereon; also the position of any other building or buildings that may be on the lot.

(b) The measurements shall in all cases be taken at the ground level.

Section 817. All plans for the erection or construction of buildings of Class IVa hereafter erected, and all plans for the installation of heating or ventilating apparatus, lighting system, plumbing, fixtures, sinks or cesspools, besides being submitted to the State Building Commissioner or Chief Building Inspector, shall be submitted to the Local Board of Health or State Department of Health for its approval of said plans and of the sanitary conditions surrounding the ground over which the proposed building is to be erected; and no permit for the erection or construction of any such building shall be issued until such approval has been obtained and endorsed on the plans.

Section 818. (a) Buildings of Class IVa hereafter erected shall be made rat proof in the following manner: The voids or spaces usually left open between the underside of the first floor and the top of the foundation wall and between the joists set on the foundation wall, and the voids or spaces between the studdings in walls and partitions, and between the furring and the walls shall be filled compactly with brick, stone, cement or concrete to a height of four (4) inches above the floor level of all floors.

(b) There shall be no opening or openings in the first floor which may lead into concealed spaces in the walls or partitions above.

Section 819. Buildings of Class IVa hereafter erected shall be fire-resistive construction; except that, pest houses and temporary hospitals may be of frame construction if not more than one (1) story in height and not within thirty (30) feet of any other building, structure or lot line of adjoining owner.

Section 820. (a) Buildings of Class IVa hereafter erected shall be so designed and constructed that the floors, treads and landings of stairways shall safely sustain in addition to the weight of the floor and stairway construction, partitions, permanent fixtures and mechanisms that may be set upon them a live load of one hundred

(100) pounds per square foot. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of horizontal surface.

Section 821. (a) Buildings of Class IVa hereafter erected used as hospitals shall be not more than four (4) stories in height.

(b) Such buildings used as pest houses shall be not more than one (1) story in height.

(c) Such buildings used as benevolent institutions shall be not more than three (3) stories in height.

Section 822. (a) Buildings of Class IVa hereafter erected shall have the first floor level at least three (3) feet above grade or the mean surface level of the ground adjoining the building if there is no grade.

(b) No such building shall have more than one (1) basement or one (1) cellar.

(c) The basement or cellar of any such building shall be not less than eight (8) feet in height.

(d) Except in the case of buildings of this class which are permitted to be of frame construction, the foundation walls shall in every case extend to a depth of at least eight (8) feet below the mean surface level of the ground.

Section 823. (a) Inner courts of buildings of Class IVa hereafter erected shall have a least dimension of not less than sixteen (16) feet.

(b) Where lot line courts of buildings on adjoining lots are opposite each other and for their whole length, the least dimension of each lot line court shall be not less than eight (8) feet. There shall be no fence or partition in such courts for all or any portion of their height.

(c) Outer courts shall have a least dimension of not less than sixteen (16) feet.

(d) Inner courts and lot line courts shall be connected directly with a street, alley, yard or outer court by a passageway extending from the ground level of such street, alley, yard or outer court to the ground level of such inner court and lot line court. Such passageway shall be at least four (4) feet wide and eight (8) feet high. There shall be no steps or risers in such passageway, and no rise of more than one (1) foot in ten (10) feet. Such passageways shall be enclosed by walls of approved fire-resistive material at least four (4) inches thick, and such passageway and such inner and lot line court shall be kept free of obstructions of any kind, including snow, ice, and waste material.

(e) Such passageway may be provided at the outer side with a door which shall open outward. Such door shall not be locked or fastened in any manner but may be self-closing.



... extend from the ground to the  
... skylight or other covering.  
... off by walls containing win-  
... more than four (4) feet in length.  
... courts as provided in this section  
... or faces of the main walls of the

... buildings of Class IVa hereafter  
... dimension of not less than five (5) feet.  
... vent shaft, with the exception of the  
... yard or court herein required, shall  
... grille.  
... passageway leading from every vent  
... or court. Such passageway shall be  
... required for passageways from inner  
... exception that it need be but two (2)  
... six (6) feet high.

... of all shafts, courts and yards of build-  
... erected shall be provided with efficient

... buildings of Class IVa hereafter erected  
... 2) stairways which shall form a continu-  
... floor to the ground. Such stairways shall  
... sides of the building, and the entrance to each  
... of the building shall be on opposite sides of  
... bottom of each stairway shall be on opposite

... way the flights of stairs from both directions  
... into a space which shall be separated from  
... by a fire-resistive partition. This fire-re-  
... be constructed of wired glass not less than one-  
... thick set in metal frames and shall have doors  
... approved double swinging fire doors or they  
... swinging doors constructed of wired glass not less  
... thick set in metal frames. These doors  
... be at least ten (10) feet away from the top or  
... stairs. The space formed by this fire-resistive  
... have a least dimension of less than ten (10)

... have hand rails on each side thereof which  
... in height. No flight of stairs shall extend  
... to floor.

... prohibited and stairways shall extend from  
... eight run. All stairways shall be at least six  
... wide.

(e) Stairways and their enclosing walls shall be constructed of approved fire-resistive materials.

(f) Outside stairways shall be built of stone or cement, and the space under such outside stairways shall not be used for storage or for an entrance to the cellar or basement.

(g) Stairways to the basement or cellar shall be located so that the opening on the first floor is not within twenty (20) feet of any other stairway. All such stairways shall have an approved self-closing hinged fire door at the top and the bottom of the run, and such doors shall be not nearer to the first stair than the width of the door. Such doors may be constructed of wired glass not less than one-quarter ( $\frac{1}{4}$ ) of an inch thick set in metal frames.

(h) The space underneath stairways shall not be used for closets; and no bicycles, motorcycles or any other article shall be stored or kept thereunder nor any other combustible materials or articles that would obstruct the hall or impede passage.

Section 827. In buildings of Class IVa hereafter erected exit doors leading to the outer air shall open outwards and all doors within the building within twenty-five (25) feet of any such exit door and leading thereto shall open in the direction of such exit door.

Section 828. (a) Basement and cellar rooms in buildings of Class IVa hereafter erected shall be at least eight (8) feet in height in their lowest part.

(b) Living rooms will not be permitted in the basement or cellar except that rooms used for kitchen or dining room purposes may be located in the basement.

(c) Basement rooms shall have at least one (1) window opening onto a street, alley, yard or court, and shall have a glass surface of windows equal to at least one-tenth (1-10) of the floor area. Where the size of basement rooms is such that window openings above grade or the surface of the ground will weaken the foundations, areaways shall be used. Where such areaways are used the width of the areaway shall be equal to the height from the lowest window sill to grade or to the coping at the surface of the ground where the surface is higher than grade.

(d) Cellar rooms shall only be used for storage or for the boiler or heater room required by this act.

(e) Cellars shall have ventilating openings at least one (1) foot square and shall have one (1) such opening for every twenty-five (25) feet of lineal distance of the walls. Each room or compartment in the cellar shall have at least one (1) such ventilating opening; provided, that such ventilating openings shall not be necessary where windows are required by this act for basement rooms in buildings



of windows equal to at least one-tenth (1-10) of the floor area. Where the size of the basement rooms is such that window openings above grade or the surface of the ground will weaken the foundation, areaways shall be used. Where such areaways are used the width of the areaway shall be equal to the height from the lowest window sill to grade, or to the coping at the surface of the ground where the surface is higher than grade.

(d) Cellar rooms shall only be used for storage or for the boiler or heater room required by this act.

(e) Cellars shall have ventilating openings at least one (1) foot square and shall have one (1) such opening for every twenty-five (25) feet of lineal distance of the walls. Each room or compartment in the cellar shall have at least one (1) such ventilating opening; provided that, such ventilating openings shall not be necessary where windows are required by this act for basement rooms in buildings of this class. Where cellars are entirely below grade or the surface of the ground, areaways shall be used at each ventilating opening to secure light and ventilation.

(f) No basement or basement room shall be used as a place of permanent confinement.

Section 881. (a) Every room in buildings of class IVb hereafter erected shall have at least one (1) window opening onto a street, alley, yard or court.

(b) Every room shall have a glass surface of windows equal to at least one-tenth (1-10) of the floor area.

(c) Every such room shall be at least nine (9) feet in height and shall have a floor area of at least one hundred (100) square feet.

(d) In every such room used as a ward, dormitory or bed room there shall be at least eighty (80) square feet of floor area for each bed or person designed to be accommodated, and all such rooms shall be at least nine (9) feet in height from the finished floor to the finished ceiling.

(e) Nothing in this section shall be constructed to prohibit rooms of less dimensions or of less glass surface of windows where such rooms are necessary for the confinement of violent or dangerous inmates.

(f) Nothing herein shall be construed to prevent the enclosing of windows with bars or grille work; provided that, all windows shall be so constructed that they will open for one-half ( $\frac{1}{2}$ ) of their full area.

Section 882. (a) In buildings of class IVb hereafter erected the entrance doors of living rooms and all cell doors shall be at least seven (7) feet in height.

(b) Every living room shall have a movable transom sash with an area of at least fifteen per cent. (15%) of the door area, except for such rooms that are guarded with bars in lieu of doors.

Section 851. (a) Buildings of Class IVa prior erected used as pest houses shall be subject to the regulations of the Local Board of Health or State Department of Health.

(b) The use of such buildings which are within less than thirty (30) feet of any other building, structure, or lot line of adjoining owner is hereby prohibited.

Section 852. (a) The bottom of all shafts, courts and yards of buildings of Class IVa prior erected shall be provided with efficient drainage, and shall be graded and paved with cement or concrete.

Section 853. (a) No room in buildings of Class IVa prior erected shall be occupied for living or sleeping purposes, or for purposes of detention or treatment, unless it contains at least four hundred and fifty (450) cubic feet of air space.

(b) No such room shall be occupied for any of the purposes enumerated in paragraph (a) of this section unless there is at least one (1) window opening on a street, alley, yard or court having a surface of at least one-twelfth (1-12) of the floor area of the room.

Section 854. In buildings of Class IVa prior erected rooms in the basement or cellar may be used for kitchen and dining room purposes; but no such room shall be used for sleeping purposes.

Section 855. (a) Buildings of Class IVa prior erected shall have at least two (2) stairways located as far apart as practicable. Such stairways shall either be constructed of approved fire-resistive materials or the under side shall be lined with an approved fire-resistive material of approved thickness. In addition, such stairways shall be enclosed with walls of approved fire-resistive materials or such walls shall be lined on the inner side with an approved fire-resistive material of approved thickness.

(b) The space underneath stairways shall not be used for closets; and no bicycles, motorcycles or any other article shall be kept stored thereunder, nor any other combustible materials or articles that would obstruct the hall or impede passage.

Section 856. Buildings of Class IVa prior erected more than three (3) stories in height shall have a fire escape or tower fire escape accessible from all parts of the common hall on every floor. Wherever necessary to pass windows or other openings such fire escape shall be protected on the bottom and inner side with a covering of some approved fire-resistive material. Such covering shall extend to a distance of two (2) feet on either side of such opening and on the inner side shall extend to a height of six (6) feet.

(b) Fire escapes shall lead directly to a street or public alley, or to an open space leading to a street or public alley.



Section 857. (a) Buildings of Class IVa prior erected and more than two (2) stories in height, shall have at least one (1) passenger elevator.

(b) The floor dimensions of such elevator shall be at least eight (8) feet by six (6) feet.

(c) Where passenger elevators are already installed in such buildings they may be retained subject to the approval of the State Building Commissioner or Chief Building Inspector.

Section 858. (a) Rooms in buildings of Class IVa prior erected used for the storage of furniture, or for carpenter shops, general repairing, paint shops, or for other equally hazardous purposes, shall either be enclosed with walls and ceilings built of approved fire-resistive materials, or the walls shall be lined on the inside with approved fire-resistive plaster laid on metal lath.

(b) All openings between these rooms and the other parts of the building shall be covered with approved self-closing hinged fire doors.

Section 859. No buildings of Class IVa prior erected shall be occupied so that there shall be less than six hundred (600) cubic feet of air space for each adult, and four hundred (400) cubic feet of air space for each child under the age of twelve (12) years. And it shall be the duty of the Local Board of Health or State Department of Health to order the number of persons occupying such building to be reduced to bring it into conformity with this section.

Section 860. (a) Buildings of Class IVa prior erected shall have at least one standpipe with fire hose as required in this act, where more than two stories in height; and shall have as many such standpipes and fire hose as may be necessary to reach every part of every floor.

(b) Such buildings shall be provided at each floor near the stairway with at least two (2) two and one-half (2½) gallon chemical hand fire extinguishers.

(c) All fire apparatus shall be under the control of the Local State Fire Marshal.

Section 861. (a) In buildings of Class IVa prior erected the location and position of all hand fire apparatus required by this act shall be determined by the Local or State Fire Marshal, and shall not be removed from that position except when actually in use or for purposes of instruction and inspection. When through, such apparatus shall be replaced in good working order. All hand fire extinguishers shall be fastened in position by a fine cord that may be easily broken, and such cord shall be sealed with a tag showing the date of sealing.

(b) Attached to the nozzle of all chemical hand fire extinguishers shall be a long needle of steel wire suitable for cleaning out the opening of the nozzle in case it should become clogged up.

Section 862. All employes engaged in or about buildings of Class IVa prior erected shall be required to know how to operate all fire apparatus in the building, and it shall be the duty of the person engaging such employes or operating such building to see that all employes are properly and thoroughly instructed.

Section 863. Buildings of Class IVa prior erected shall be connected with a public water and sewer system if such are available; or, there shall be installed a private water system and sewer system that shall be satisfactory to the Local Board of Health or State Department of Health.

Section 864. (a) In buildings of Class IVa prior erected there shall be at least one (1) toilet room on each floor. Where any such toilet room is designed to be used exclusively by either sex it shall be marked "Men" or "Women," as the case may be. There shall be one (1) such toilet room for every fifty (50) persons designed to be accommodated on a floor.

(b) Such buildings shall have at least one (1) water-closet, one (1) lavatory and one (1) bath on every floor which may all be contained within one (1) toilet room. There shall be at least one (1) water-closet, lavatory and bath for every fifty (50) persons designed to be accommodated on a floor.

(c) No toilet room or water-closet compartment shall connect directly with any kitchen, dining room or other room where edibles are kept, prepared or consumed; and no water-closet shall be placed in any room or suits of rooms, used for living or sleeping purposes, but may be in rooms connected therewith.

Section 865. (a) Buildings of Class IVa prior erected used as hospitals shall have for each one hundred (100) patients or fractional part thereof designed to be accommodated therein, a suite of rooms thoroughly isolated from the remainder of the hospital for the use of patients afflicted with contagious or infectious diseases originating within the walls of the institution. Such suites shall have complete plumbing facilities for each person designed to be accommodated, and shall have at least one (1) bath, one (1) water-closet and one (1) lavatory, and shall be kept ready for instant use.

(b) Such suites shall be constructed to accommodate at least two (2) patients and the necessary attendants.

Section 866. (a) Buildings of Class IVa prior erected shall be provided with an approved ventilating system which shall be capable of changing the air six (6) times per hour in every room. This sys-



tem shall be in constant operation except at seasons or times when adequate ventilation may be secured through open windows or other openings.

(b) When the outside air requires it, the air shall be tempered and heated.

Special Requirements for Buildings of Class IVb Hereafter Erected.—  
Asylums, Penal Institutions and Places of Temporary Detention.

Section 867. In Class IV shall be included buildings in which people are received, confined or restrained.

(a) Hospitals, Pest Houses, Sanitariums and Benevolent Institutions.

(b) Asylums, Penal Institutions and Places of Temporary Detention.

Section 868. (a) The following special requirements for buildings of Class IVb hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 869. (a) Buildings of Class IVb hereafter erected shall not occupy more than eighty (80) per cent. of a corner lot or more than sixty (60) per cent. of an interior lot. All such unoccupied space shall be free and unobstructed from the ground to the sky. At least one-half ( $\frac{1}{2}$ ) of the unoccupied space required under this section shall be on some portion of the lot other than the street side.

(b) For the purposes of this section the measurements shall be taken at the ground level.

(c) Pest houses for the accommodation of patients afflicted with leprosy shall be located not less than five hundred (500) feet, and for patients afflicted with Asiatic cholera or smallpox not less than two hundred (200) feet, from any other building, structure, thoroughfare or lot line of adjoining owner.

(d) Open buildings or shacks, used for the treatment or care of persons afflicted with tuberculosis shall not be placed nearer than thirty (30) feet to any other building, structure, thoroughfare or lot line of adjoining owner.

(e) No wall containing windows shall be placed nearer any other building, structure or lot line than sixteen (16) feet.

Section 870. Buildings of Class IVb hereafter erected shall not hereafter be enlarged or its lot be diminished so that a greater percentage of the lot shall be occupied by buildings or structures other than as permitted under the provisions of this act. Should any such

lot be so diminished the occupancy of such building for the purpose of Class IVb shall thereafter be prohibited.

Section 871. (a) At the time of applying for a permit for the erection of, alteration of, addition to, or moving of any building of Class IVb hereafter erected or for the erection, alteration, adding to, or moving of, any building onto a lot upon which a building of Class IVb hereafter erected stands, the applicant shall submit to the State Building Commissioner or Chief Building Inspector a plan of the lot, showing the location and dimensions of the same, the relative position of the lot in reference to the nearest streets and alleys, and the portion to be occupied by the proposed building or by the building to be altered or added to or by the building to be moved thereon; also the position of any other building or buildings that may be on the lot.

(b) The measurements shall in all cases be taken at the ground level.

Section 872. All plans for the erection or construction of buildings of class IVb hereafter erected, and all plans for the installation of heating or ventilating apparatus, lighting system, plumbing, fixtures, sinks or cesspools, besides being submitted to the State Building Commissioner or Chief Building Inspector, shall be submitted to the Local Board of Health or State Department of Health for its approval of said plans and of the sanitary conditions surrounding the ground over which the proposed building is to be erected; and no permit for the erection or construction of any such building shall be issued until such approval has been obtained and endorsed on the plans.

Section 873. (a) Buildings of Class IVb hereafter erected shall be made rat proof in the following manner: The voids or spaces usually left open between the under side of the first floor and the top of the foundation wall and between the joists set on the foundation wall, and the voids or spaces between the studdings in walls and partitions, and between the furring and the walls shall be filled in compactly with brick, stone, cement or concrete to a height of four (4) inches above the floor level of all floors.

(b) There shall be no opening or openings in the first floor above grade which may lead into concealed spaces in the walls or partitions above.

Section 874. (a) All buildings of class IVb hereafter erected shall be of fire-resistive construction.

(b) No such building shall be more than two (2) stories in height.

Section 875. Buildings of class IVb hereafter erected shall be so designed and constructed that the floors and treads and landings of



stairways shall safely sustain in addition to the weight of the floor and stairway construction, partitions, permanent fixtures and mechanisms a live load of one hundred (100) pounds on every square foot of surface. Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 876. (a) Buildings of class IVb hereafter erected shall have the first floor level at least three (3) feet above grade or mean surface level of the ground adjoining the building if there is no grade.

(b) No such building shall have more than one (1) basement or one (1) cellar.

(c) The basement or cellar of any such building shall be not less than eight (8) feet in height.

(d) Except in the case of buildings of this class which are permitted to be of frame construction, the foundation walls shall in every case extend to a depth of at least eight (8) feet below the mean surface level of the ground.

Section 877. (a) In buildings of class IVb hereafter erected every court shall have a least dimension of not less than sixteen (16) feet.

(b) Courts shall be open and unobstructed from the ground to the sky, except that skylights may be used having fixed or movable louvres.

(c) Corners of courts may be cut off by walls containing windows provided such walls are not more than four (4) feet in length. In such case the least dimension of courts as required in this section shall be estimated between the outer faces of the main walls of the courts.

Section 878. (a) Vent shafts of all buildings of class IVb hereafter erected shall have a least dimension of not less than five (5) feet.

(b) Every opening onto a vent shaft, with the exception of a passageway to the street, alley, yard or court herein required, shall be covered by an iron or steel grille.

(c) The bottom of all shafts, courts, and yards of buildings of class IVb hereafter erected shall be provided with efficient drainage.

(d) The bottom of all shafts and courts shall be graded and paved with concrete, cement, stone, gravel or cinders.

Section 879. (a) In buildings of class IVb hereafter erected there shall be at least two (2) stairways which shall form a continuous route from the top floor to the ground. Such stairways shall be placed on opposite sides of the building, and the entrances to each stairway at the top floor of the building shall be on opposite sides of the building and the bottom of each stairway shall be on opposite sides of the building.

(b) In every stairway the flights of stairs from both directions shall lead at every floor into a space which shall be separated from the rest of the building by fire-resistive partition. This fire-resistive partition may be constructed of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames and shall have doors which shall be either approved double swinging fire doors or they shall be double swinging doors constructed of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames. These doors shall in every case be at least ten (10) feet away from the top or bottom of any flight of stairs. The space formed by this fire-resistive partition shall never have a least dimension of less than ten (10) feet.

(c) All stairways shall have hand rails on each side thereof which shall be three (3) feet in height. No flight of stairs shall extend higher than from floor to floor.

(d) All stairways and their enclosing walls shall be constructed of approved fire-resistive materials.

(e) Outside stairways shall be built of stone, cement, or concrete and the space under such outside stairways shall not be used for storage or for an entrance to the cellar or basement.

(f) Stairways to the basement or cellar shall be located so that the opening on the floor is not within twenty (20) feet of any other stairway. All such stairways shall have an approved self-closing hinged fire door at the top and the bottom of the run, and such doors shall be not nearer to the first stair than the width of the door. Such doors may be constructed of wired glass not less than one-quarter ( $\frac{1}{4}$ ) of an inch thick set in metal frames.

(g) No stairway shall be less than four (4) feet in width.

(h) Nothing herein contained shall be construed to prevent barricading stairways with approved fire doors and locking them; provided that, when locked there shall be at least one (1) attendant above the first floor above grade either having in his possession or having access to the necessary keys to unlock such doors.

(i) No closets shall be constructed under any stairway, and no combustible or easily inflammable material shall be stored or kept thereunder.

Section 880. (a) Basement and cellar rooms in buildings of class IVb hereafter erected shall be at least eight (8) feet in height in their lowest part.

(b) Living rooms or cell rooms will not be permitted in the basement or cellar, except that rooms used for kitchen or dining room purposes may be located in the basement.

(c) All basement rooms shall have at least one (1) window opening onto a street, alley, yard or court, and shall have a glass surface



(b) If less than six (6) stories or seventy-five (75) feet and three (3) stories or forty (40) feet or more in height, it shall be of mill construction or fire-resistive construction.

(c) If three (3) stories in height and less than forty (40) feet and more than twenty-five (25) feet in height, it shall be of ordinary construction or mill construction or fire-resistive construction.

(d) If not more than two (2) stories twenty-five feet high it may be of frame construction.

Section 915. In buildings of class Va hereafter erected no story shall be less than twelve (12) feet in height.

Section 916. (a) Buildings of class Va hereafter erected shall be designed and constructed so that the floors in every case shall safely sustain any live load that may be set upon them incidental to the business for which such building is used; and in no case shall be less than one hundred and twenty (120) pounds per square foot.

(b) It shall be the duty of the State Building Commissioner or Chief Building Inspector to make such examinations as may be necessary to determine the safe allowable live load for the particular business for which the building is used, and it shall be the duty of the owner, agent or occupant in charge or possession to post a placard in a conspicuous place stating the maximum allowable live load per square foot. It shall be unlawful for any one to load any floor, landing or portion thereof, in excess of this maximum load.

(c) All such placards must be posted and continuously maintained during the entire period that such building is used for such business, and no such building shall be used for any other business or purpose whatever unless the State Building Commissioner or Chief Building Inspector shall have first been notified and until an examination has been made to determine the safe allowable live load. All placards must be verified and approved by the State Building Commissioner or Chief Building Inspector before being posted.

(d) The stairs, stairways and fire escapes of such buildings shall be designed and constructed to safely sustain a live load of one hundred and fifty (150) pounds per square foot of surface of treads and landings.

Section 917. Buildings of class Va hereafter erected which are so built as to form a part of another building shall be separated from such building or part thereof by fire walls. Exit openings in such fire walls not more than five (5) feet in width, will be permitted provided that, they are equipped with approved self-closing, hinge fire doors. Such fire doors shall not be blocked open or latched back at any time.

Section 918. (a) Courts of buildings of class Va hereafter erected shall have a least dimension of not less than sixteen (16) feet.

Where solid doors are used there may be an open space in the movable transom sash, having the same area as is required for movable transom sash. Such open space may be used for other purposes.

This section shall not be applicable to rooms used for the confinement of violent or dangerous inmates or prisoners.

Section 883. (a) In buildings of class IVb hereafter erected the common hall shall be less than eight (8) feet in width, and no secondary hall or other hall shall be less than five (5) feet in width.

(b) Rooms or suites of rooms shall open onto a common hall and stairways or elevators shall open onto a common hall through a vestibule.

(c) On every floor that portion of the common hall onto which the elevator shafts open shall be partitioned off from every other portion of the common hall by a fire-resistive partition fitted with approved self-closing, double swinging, fire doors. Such doors shall at all times remain in a closed position, except when in actual use, and when opened such doors shall not obstruct the entrance to the elevators. Such fire-resistive partition and such doors may be constructed of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames.

(d) Nothing herein shall be construed to prohibit the locking of doors in such partition.

Section 884. (a) Buildings of class IVb hereafter erected more than one (1) story in height shall have at least one (1) passenger elevator.

(b) The floor dimensions of every elevator car shall be at least eight (8) feet by six (6) feet.

(c) Elevator shafts shall be constructed as required by this act.

(d) Nothing herein shall be construed to prohibit the locking of doors of elevator cars and landing doors.

Section 885. (a) Cells and cell rooms of buildings of class IVb hereafter erected shall be at least nine (9) feet in height.

(b) Cells shall have a floor area of at least fifty (50) square feet, and cell rooms shall have a floor area of not less than eighty (80) square feet for each person confined therein.

(c) Nothing in this section shall be construed to prohibit cells or cell rooms of less dimension where such rooms are necessary for the confinement of violent or dangerous inmates.

Section 886. Buildings of class IVb hereafter erected shall be connected with a public water and sewer system if such are available; or, there shall be installed a private water system and sewer system



of which the Local Board of Health or State

ways and drains of class IVb hereafter erected each  
to grade. Drains shall be in ac-  
face of this act. The floor shall be of  
asphalt, steel or other impervious

(19) This section shall be applicable to cells set aside for the  
square feet, dangerous or intractable inmates;  
(25) This section shall be applicable to more than ten per cent. (10%) of

provided that the windows of class IVb hereafter erected arti-  
this shall be accomplished by means of elec-  
of the building shall be placed in front of the cell  
opening in such a manner that the light

(20) This section shall be applicable to outlets placed in cells or within reach  
electric illumination and for no other form

(21) This section shall be applicable to class IVb hereafter erected shall have  
shall have at least one (1) shower bath  
or fractional part thereof.

(22) This section shall be applicable to class IVb hereafter erected rooms  
carpenter shops, general repairing,  
hazardous purposes shall be enclosed  
of approved fire-resistive materials. All  
rooms or apartments and the other parts of  
equipped with approved self-closing hinged fire

boilers, hot water heating boilers and low  
may be located in buildings of class IVb here-  
that, the heating apparatus, fuel room and  
in a room the walls and ceiling of which are  
fire-resistive materials; and provided further  
the same from the other parts of the building  
self-closing hinged fire doors.  
shall be located under any lobby, exit stairway

boiler operated at more than ten (10) pounds  
operated at more than thirty-five (35) pounds  
within the main walls of any such building.

(d) All piping leading from the heater room to the risers shall be covered with an approved pipe covering at least one (1) inch in thickness.

(e) Boilers used for buildings of this class shall be equipped with two (2) safety valves, one of which shall be tested, locked and sealed. Both safety valves shall be attached to the boiler without any intervening valve. Where there is an official charged by law with the duty of inspecting and examining boilers it shall be his duty to test, lock and seal such valve as required in this section. Where, however, there is no such official such duties shall devolve upon the State Building Commissioner or Chief Building Inspector.

Section 892. (a) In buildings of class IVb hereafter erected there shall be at least one (1) toilet room on every floor for every fifty (50) persons intended to be accommodated thereby.

(b) There shall be at least one (1) water-closet on every floor for every twenty-five (25) persons intended to be accommodated thereby; one (1) lavatory on each floor for every ten (10) persons intended to be accommodated; and one (1) bath tub and one (1) shower bath on every floor for every twenty-five (25) persons intended to be accommodated thereby. Nothing in this section shall be construed to prevent the placing of lavatories, water-closets and bath in the same toilet room.

(c) There shall be at least one (1) approved drinking fountain on every floor.

Section 893. (a) In buildings of class IVb hereafter erected every room or cell in which one (1) or more persons are confined, shall be provided with an artificial ventilating system which shall be in operation at all times. The air shall be tempered and heated when the outside temperature requires the windows to be kept closed or when the outside temperature is below sixty (60) degrees Fahrenheit. Such artificial ventilating apparatus shall supply each and every person confined in said room or cell with at least fifteen hundred (1,500) cubic feet of fresh air per hour. Fresh air shall be introduced into each cell at the end opposite the door.

(b) The air supply for buildings of this class, arranged to confine ten (10) or more persons, shall be tempered or heated by low pressure steam heat or hot water.

**Special Requirements for Buildings of Class IVb Prior Erected.—  
Asylums, Penal Institutions and Places of Temporary Detention.**

Section 894. In class IV shall be included buildings in which people are received, confined or restrained.

(a) Hospitals, pest Houses, Sanitariums and Benevolent Institutions.



closed throughout by walls built of approved fire-resistive materials. At floor landings the top of one (1) flight of stairs shall be not more than twenty-five (25) feet away from the bottom of the next flight of stairs, and the floor space between such flights shall be completely enclosed by partitions constructed of approved fire-resistive materials. Entrance into such enclosed space shall be had by means of vestibules.

(c) Risers shall be not more than eight (8) inches high and treads not less than nine (9) inches wide, and no stairway shall be less than four (4) feet in width.

(d) Every flight of stairs shall have a hand rail on each side at least three (3) feet high which may be of wood. Stairways eight (8) feet or more in width shall have in addition double intermediate hand rails with end newel posts at top and bottom landings not less than seven (7) feet in height.

(e) Window openings will be permitted in such stairway enclosures for light, but such openings must be covered with wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in fixed metal sash.

(f) A tower fire escape may be substituted for one (1) of the stairways herein required; provided that, it is used as one (1) of the ordinary means of ingress and egress; and provided that, it is located as far as practicable from the other stairway.

(g) Doors leading into such stairways shall be approved double swinging hinged fire doors, and it shall be unlawful to block open or latch back any such door.

Section 921. (a) In buildings of class Va hereafter erected, all exit doors and all doors leading to exits shall open outward.

(b) Doors of all rooms of such buildings which are habitually occupied by ten (10) or more persons and which open onto a hall leading to an exit shall be swung so as to open in the direction of the exit.

(c) All doors and exits shall be unlocked and unobstructed during such time as the building is occupied during working hours; provided that, in cases where it is necessary for the safe conduct of the business to have some of the exit doors locked there shall be a fire ax hung conveniently on the wall adjacent to such door, and it shall be lawful to remove such fire ax except when in use for the purpose for which it is intended, or for purposes of inspection and instruction, but at least one (1) exit door shall be unlocked and unobstructed at all times during working hours.

Section 922. (a) In buildings of class Va hereafter erected there shall be no openings through floors except for mezzanine stories, stairways and elevators; except that, there may be such openings as are necessary in the conduct of the business for which the building

is used. Wherever practicable all such openings shall be properly guarded by substantial hand rails not less than three (3) feet high.

Section 923. (a) Buildings of class Va hereafter erected designed for the use of or actually used by more than twenty-five (25) employes shall have all floors subdivided by fire walls or fire-resistive partitions of approved thickness into floor areas. Such floor areas on each floor shall not exceed the dimensions given in the following table:

Stories in Height.	Fire-resistive.	Construction.		
		Mill.	Ordinary.	Frame.
Not more than one (1), .....	16,000	14,000	12,000*	6,000
Not more than two (2), .....	15,000	12,000	8,000	4,000
Not more than three (3), .....	14,000	10,000	6,000	
Not more than four (4), .....	13,000	8,000	4,000	
Not more than five (5), .....	12,000	6,000		
Not more than six (6), .....	11,000			
Not more than seven (7), .....	10,000			

(b) Openings in fire walls or fire-resistive partitions which are more than one hundred (100) feet in length shall not exceed forty (40) per cent. of the area of such walls or partitions. Where such walls or partitions are more than fifty (50) feet in length and less than one hundred (100) feet in length, openings shall not exceed forty-five (45) per cent. of the area of such walls or partitions. Where such walls or partitions are less than fifty (50) feet in length openings shall not exceed fifty (50) per cent. of the area of such walls or partitions.

(c) There shall be two (2) means of egress from each floor area on each floor, located on opposite sides of the floor area. Both of such means of egress may consist of horizontal openings through enclosing fire-resistive partitions; provided that, such openings are equipped with an approved self-closing fire door; and provided further, that there is a free and unobstructed access to at least one (1) of the stairways, required by this act, in either direction. Such door shall be a hinged door, except that rolling or sliding doors will be permitted; provided that, there is an approved self-closing hinged fire door at least three (3) feet wide in the panel of such rolling or sliding door.

(d) Floor areas devoted to the manufacturing, storing or handling of any easily combustible or highly inflammable material, which are above the first story, shall be completely enclosed from the rest of the building by fire-resistive partitions without openings, and



control of the Local or State Fire Marshall and subject to such additional regulations as he may impose.

Section 929. Buildings of Class Va hereafter erected more than two (2) stories in height shall be provided with an approved system of fire gongs. One (1) such gong shall be located in each of the two (2) principal stairways required by this act, and one (1) in each floor area. All fire gongs shall be so connected that they may be rung from any story or from the basement or cellar.

Section 930. (a) In buildings of Class Va hereafter erected more than two stories in height and occupied by more than twenty-five (25) employes or in which women are employed it shall be the duty of the owner, agent or person in possession, charge or control to establish and maintain a good and efficient fire drill which shall be practiced at least twice in every month. It shall be the duty of such person to make a written report every six (6) months to the Local or State Fire Marshal which report shall show the number of fire drills and the time that elapsed from the first fire signal until the last person was out of the building. Such reports shall be made upon blanks to be furnished by the Local or State Fire Marshal, and it shall be unlawful for any person to make a report of a fire drill when none occurred or to misrepresent the same.

(b) It shall also be the duty of such person to cause an examination to be made of all fire escapes, doors, windows and passageways leading to exits at least once in every week, and to make a written report of the same to the Local or State Fire Marshal every six (6) months. Such report shall show the number of examinations made and the condition in which the fire escapes, doors, windows and passageways were found. Such reports shall be made upon blanks furnished by the Local or State Fire Marshal, and it shall be unlawful for such person to make any false report or to misrepresent the actual conditions.

(c) The duties herein imposed in this section shall not be held to relieve the Local or State Fire Marshal or the State Building Commissioner or Chief Building Inspector from such duties as are otherwise required of them.

Section 931. (a) In buildings of Class Va hereafter erected there shall be separate toilet rooms for men and women connected with a public or private sewer system, except that where there is no public or private sewer system some method of disposal of sewerage approved by the State Department of Health may be adopted. All toilet rooms shall be plainly marked "Men" or "Women," as the case may be, and shall be confined strictly for their respective use.

(b) All toilet fixtures and plumbing shall be installed as required by this act.

(c) Toilet rooms shall be placed not more than one (1) story above or below any story used by the employes, and the walking distance to the same shall not exceed one hundred and fifty (150) feet.

(d) Toilet rooms for women shall be so located, and the means of reaching the same so screened or secluded as not to cause any unnecessary exposure, and so arranged as not to compel women to pass through parts of the building occupied only by men. Toilet rooms for women shall not be placed in the basement unless such basement is used as a workroom and women are employed therein.

(e) Toilet rooms for men shall be so screened or secluded as not to expose the fixtures therein to parts of the building used by women.

(f) Toilet rooms for men and women shall not be less than twenty (20) feet from each other.

(g) Unless otherwise approved by the Local Board of Health or State Department of Health, all toilet rooms shall be within the building, and shall be provided with not less than the following fixtures:

One (1) water-closet for every twenty-five (25) men or fractional part thereof.

One (1) water-closet for every twenty (20) women or fractional part thereof.

One (1) urinal for every fifty (50) men or fractional part thereof.

One (1) lavatory for every twenty (20) persons or fractional part thereof.

(h) There shall be at least one (1) drinking fountain for every fifty (50) persons or fractional part thereof employed in the building. Such drinking fountains shall be located at convenient places in the building.

Section 932. (a) Buildings of Class Va hereafter erected in which shavings, sawdust, chips, excelsior, loose paper, straw or similar combustible material is used for packing, shipping or manufacturing purposes, shall be provided with a fire-resistive vault enclosed by walls, floors and ceilings constructed of approved fire-resistive material.

(b) Such vault shall be of sufficient capacity to contain all such material in the building.

(c) All openings into these packing vaults from the other parts of the building shall be provided with approved self-closing hinged fire doors, and shall be kept in a closed position and shall not be blocked open nor locked in an open position.

(d) Such vaults shall be provided with sufficient approved automatic sprinklers.



**Section 933. (a)** In buildings of Class Va hereafter erected where more than twenty-five (25) people are employed above the first story, no steam boiler operated at a pressure in excess of thirty-five (35) pounds shall be located within the main walls of the building, except boilers of ten (10) and less horsepower.

(b) No cast iron steam boilers shall be operated at a pressure in excess of ten (10) pounds.

(c) Furnaces, hot water heating boilers and low pressure steam boilers and high pressure steel boilers of not more than ten (10) horse power may be located in the building; provided that, the heating apparatus, including the breeching, fuel room, and firing space, are enclosed by walls and ceilings built of approved fire-resistive materials. All openings into the same from the other parts of the building shall be covered by approved self-closing hinged fire doors.

(d) No furnace or boilers shall be located under any lobby, exit, stairway or passageway.

**Section 934. (a)** In buildings of Class Va hereafter erected where the nature of the work requires a building with partly open walls or roofs no system of heating or ventilating is required, but water-tight roofs and wind shields or screens shall be provided covering as great an area as possible without interfering with the operation of the plant.

(b) No heating or ventilating system will be required in such buildings where refrigerating apparatus is installed or operated, or in such buildings used only in warm weather.

(c) All other buildings or parts of buildings of this class shall be heated to fifty (50) degrees in zero weather where the occupants are performing hard labor, and to seventy (70) degrees in zero weather where the occupants are performing light labor or are working at counters or benches.

(d) In all parts of such buildings enclosed by walls, ceilings and floors, except where the nature of the occupancy will not permit and where the gross cubical contents of the enclosed space will not permit, an approved heating and ventilating system shall be installed, which at normal temperature will supply to each person eighteen hundred (1,800) cubic feet of air per hour.

(e) Each dressing room in such building containing more than ten (10) lockers, and each toilet room shall be provided with a system of ventilation which will remove the air six (6) times per hour.

(f) Such buildings used as bakeries, laundries or kitchens shall be provided with a system of ventilation which will remove the air not less than six (6) times per hour.

(g) Floor registers will not be permitted in any part of such building, and ventilating openings between floors of subdivided floor areas, will not be permitted. All ventilating flues shall supply each floor or floor area independently.

**Special Requirements for Buildings of Class Va Prior Erected.—  
Factories, Etc.**

**Section 935.** In Class V shall be included buildings used for manufacturing or storage purposes.

- (a) **Factories** (including mills, except powder mills, workshops, foundries, blast furnaces, etc.).
- (b) **Grain Elevators, Cold Storage Houses, Warehouses, Breweries, Distillers, Slaughter Houses or Abattoirs, and Packing Houses.**
- (c) **Powder Mills, Oil Refineries and Gasometers.**
- (d) **Power Plants.**

**Section 936.** (a) The following special requirements for buildings of Class Va prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

**Section 937.** (a) No building of Class Va prior erected more than six (6) stories or seventy-five (75) feet in height shall be used for any of the purposes of this class unless such buildings are of fire-resistive construction.

(b) Any such building more than three (3) stories in height in which more than ten (10) employes are employed in any one (1) story above the first, shall be subject to such safeguards and requirements in addition to those required by this act, as the State Building Commissioner or Chief Building Inspector shall deem necessary.

(c) No such building of frame construction, in which there are more than ten (10) employes regularly employed above the first story, may be more than two (2) stories in height.

**Section 938.** (a) Buildings of Class Va prior erected shall be designed and constructed so that the floors in every case shall safely sustain any live load that may be set upon them incidental to the business for which such building is used, and in no case shall be less than one hundred and twenty (120) pounds per square foot.

(b) It shall be the duty of the State Building Commissioner or Chief Building Inspector to make such examinations as may be necessary to determine the safe allowable live load for the particular business for which the building is used, and it shall be the duty



of the owner, agent or occupant in charge or possession to post a placard in a conspicuous place stating the maximum allowable live load per square foot. It shall be unlawful for any one to load any floor, landing or portion thereof in excess of this maximum load.

(c) All such placards must be posted and continuously maintained during the entire period that such building is used for such business, and no such building shall be used for any other business or purpose whatever unless the State Building Commissioner or Chief Building Inspector shall have first been notified and until an examination has been made to determine the safe allowable live load. All placards must be verified and approved by the State Building Commissioner or Chief Building Inspector before being posted.

(d) The stairs, stairways and fire escapes of such buildings shall be designed and constructed to safely sustain a live load of one hundred and fifty (150) pounds per square foot of surface of treads and landings.

Section 939. (a) Buildings of Class Va prior erected which are so built as to form a part of another building shall be separated from such building or part thereof by fire walls, or by walls which are protected with a lining of at least one (1) thickness of brick or equivalent material, or by walls protected with approved metal lath and approved fire-resistive plaster, subject to the approval of the State Building Commissioner or Chief Building Inspector. Exit openings in such fire walls, not more than five (5) feet in width, will be permitted; provided that, they are equipped with approved self-closing, hinged fire doors. Such fire doors shall not be blocked open or latched back at any time.

Section 940. (a) In buildings of Class Va prior erected means of ingress shall be provided to the street from all courts.

(b) All courts shall be open and unobstructed from the ground to the sky, and shall not be covered with a roof or skylight.

Section 941. In buildings of Class Va prior erected walls placed nearer than sixteen (16) feet to any other wall, built lot line shall have all windows therein covered with wire not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frame the opinion of the Local or State Fire Marshal the same necessary. Such windows shall be equipped with metal easily closed or opened from the outside or with other fire shutters whenever in the opinion of the Local or State Marshal the same shall be necessary.

Section 942. (a) Buildings of Class Va prior erected at least two (2) means of egress, one of which shall open street and the other may open onto a public alley or space.

(b) There shall be at least two (2) stairways between every floor located as far apart as practicable and as often as practicable one (1) of the outside walls of the building shall constitute one (1) of the enclosing walls of the stairway. Such stairway shall be enclosed throughout by walls built of approved fire-resistive materials. At floor landings the top of one (1) flight of stairs shall be not more than twenty-five (25) feet away from the bottom of the next flight of stairs, and the floor space between such flights shall be completely enclosed by partitions constructed of approved fire-resistive materials. Entrance to such enclosed space shall be had by means of vestibules.

(c) Risers shall be not more than eight (8) inches high and treads not less than nine (9) inches wide, and no stairway shall be less than four (4) feet in width.

(d) Every flight of stairs shall have a hand rail on each side at least three (3) feet high which may be of wood. Stairways eight (8) feet or more in width shall have in addition double intermediate hand rails with end newel posts at top and bottom landings not less than seven (7) feet in height.

(e) Window openings will be permitted in such stairway enclosures for light, but such openings must be covered with wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in fixed metal sash.

(f) A tower fire escape may be substituted for one (1) of the stairways herein required; provided that, it is used as one (1) of the ordinary means of ingress and egress; and provided further that, it is located as far as practicable from the other stairway.

(g) Doors leading into such stairways shall be approved double swinging hinged fire doors, and it shall be unlawful to block open or latch back any such door.

(h) Where the cost of making changes in such buildings in order to comply with the provisions of this section will be prohibitive, and where the practical benefits intended to be secured by the application of this section can be obtained without complying with the strict letter of this section, the State Building Commissioner or Chief Building Inspector may, in his discretion, permit such deviations from the requirements of this section as may seem to be just and reasonable; provided that, in every such case a record in writing is made of such deviations, together with the reasons therefor, and shall be kept on file for public inspection.

Section 943. (a) In buildings of Class Va prior erected all exit doors, and all doors leading to exits shall open outward.

(b) Doors of all rooms of such buildings which are habitually occupied by ten (10) or more persons and which open onto a hall



of the owner, agent or occupant in charge or possession to post a placard in a conspicuous place stating the maximum allowable live load per square foot. It shall be unlawful for any one to load any floor, landing or portion thereof in excess of this maximum load.

(c) All such placards must be posted and continuously maintained during the entire period that such building is used for such business, and no such building shall be used for any other business or purpose whatever unless the State Building Commissioner or Chief Building Inspector shall have first been notified and until an examination has been made to determine the safe allowable live load. All placards must be verified and approved by the State Building Commissioner or Chief Building Inspector before being posted.

(d) The stairs, stairways and fire escapes of such buildings shall be designed and constructed to safely sustain a live load of one hundred and fifty (150) pounds per square foot of surface of treads and landings.

Section 939. (a) Buildings of Class Va prior erected which are so built as to form a part of another building shall be separated from such building or part thereof by fire walls, or by walls which are protected with a lining of at least one (1) thickness of brick or equivalent material, or by walls protected with approved metal lath and approved fire-resistive plaster, subject to the approval of the State Building Commissioner or Chief Building Inspector. Exit openings in such fire walls, not more than five (5) feet in width, will be permitted; provided that, they are equipped with approved self-closing, hinged fire doors. Such fire doors shall not be blocked open or latched back at any time.

Section 940. (a) In buildings of Class Va prior erected means of ingress shall be provided to the street from all courts.

(b) All courts shall be open and unobstructed from the ground to the sky, and shall not be covered with a roof or skylight.

Section 941. In buildings of Class Va prior erected walls that are placed nearer than sixteen (16) feet to any other wall, building or lot line shall have all windows therein covered with wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames, if in the opinion of the Local or State Fire Marshal the same shall be necessary. Such windows shall be equipped with metal shutters easily closed or opened from the outside or with other approved fire shutters whenever in the opinion of the Local or State Fire Marshal the same shall be necessary.

Section 942. (a) Buildings of Class Va prior erected shall have at least two (2) means of egress, one of which shall open onto a street and the other may open onto a public alley or unenclosed space.

(b) There shall be at least two (2) stairways between every floor located as far apart as practicable and as often as practicable one (1) of the outside walls of the building shall constitute one (1) of the enclosing walls of the stairway. Such stairway shall be enclosed throughout by walls built of approved fire-resistive materials. At floor landings the top of one (1) flight of stairs shall be not more than twenty-five (25) feet away from the bottom of the next flight of stairs, and the floor space between such flights shall be completely enclosed by partitions constructed of approved fire-resistive materials. Entrance to such enclosed space shall be had by means of vestibules.

(c) Risers shall be not more than eight (8) inches high and treads not less than nine (9) inches wide, and no stairway shall be less than four (4) feet in width.

(d) Every flight of stairs shall have a hand rail on each side at least three (3) feet high which may be of wood. Stairways eight (8) feet or more in width shall have in addition double intermediate hand rails with end newel posts at top and bottom landings not less than seven (7) feet in height.

(e) Window openings will be permitted in such stairway enclosures for light, but such openings must be covered with wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in fixed metal sash.

(f) A tower fire escape may be substituted for one (1) of the stairways herein required; provided that, it is used as one (1) of the ordinary means of ingress and egress; and provided further that, it is located as far as practicable from the other stairway.

(g) Doors leading into such stairways shall be approved double swinging hinged fire doors, and it shall be unlawful to block open or latch back any such door.

(h) Where the cost of making changes in such buildings in order to comply with the provisions of this section will be prohibitive, and where the practical benefits intended to be secured by the application of this section can be obtained without complying with the strict letter of this section, the State Building Commissioner or Chief Building Inspector may, in his discretion, permit such deviations from the requirements of this section as may seem to be just and reasonable; provided that, in every such case a record in writing is made of such deviations, together with the reasons therefor, and shall be kept on file for public inspection.

Section 943. (a) In buildings of Class Va prior erected all exit doors, and all doors leading to exits shall open outward.

(b) Doors of all rooms of such buildings which are habitually occupied by ten (10) or more persons and which open onto a hall



leading to an exit shall be swung so as to open in the direction of the exit.

(c) All doors and exits shall be unlocked and unobstructed during such time as the building is occupied during working hours; provided that, in cases where it is necessary for the safe conduct of the business to have some of the exit doors locked there shall be a fire ax hung conveniently on the wall adjacent to such door, and it shall be unlawful to remove such fire ax except when in use for the purpose for which it is intended, or for purposes of inspection and instruction, but at least one (1) exit door shall be unlocked and unobstructed at all times during working hours.

Section 944. (a) In buildings of Class Va prior erected openings through floors for mezzanine stories, stairways and elevators and for such other openings as are necessary in the conduct of the business for which the building is used will be permitted; provided that, all unenclosed openings shall be properly guarded by substantial hand rails not less than three (3) feet high where practicable.

(b) In such buildings where more than twenty-five (25) persons are employed above the second story all openings other than for the stairways and elevators otherwise provided for in this act shall be protected by approved automatic closing fire doors operated by a fusible link.

Section 945. (a) Buildings of Class Va prior erected designed for the use of or actually used by more than twenty-five (25) employees above the second story shall have all floors subdivided by fire walls or fire-resistive partitions of approved thickness into floor areas. Such floor areas on each floor shall not exceed the dimensions given in the following table:

Stories in Height.	Fire-resistive.	Construction.		
		Mul.	Ordinary.	Frame.
Not more than one (1), .....	16,000	14,000	12,000	6,000
Not more than two (2), .....	15,000	12,000	8,000	4,000
Not more than three (3), .....	14,000	10,000	6,000	
Not more than four (4), .....	13,000	8,000	4,000	
Not more than five (5), .....	12,000	6,000		
Not more than six (6), .....	11,000			
Not more than seven (7), .....	10,000			

(b) Openings in fire walls or fire-resistive partitions which are more than one hundred (100) feet in length shall not exceed forty (40) per cent of the area of such walls or partitions. Where such

walls or partitions are more than fifty (50) feet in length and less than one hundred (100) feet in length, openings shall not exceed forty-five (45) per cent. of the area of such walls or partitions. Where such walls or partitions are less than fifty (50) feet in length openings shall not exceed fifty (50) per cent. of the area of such walls or partitions.

(c) There shall be two (2) means of egress from each floor area on each floor, located on opposite sides of the floor area. Both of such means of egress may consist of horizontal openings through enclosing fire-resistive partitions; provided that, such openings are equipped with self-closing fire doors; and provided further that, there is a free and unobstructed access to at least one (1) of the stairways required by this act, in either direction. Such doors shall be a hinged door, except that rolling or sliding doors will be permitted; provided that, there is an approved self-closing hinged fire door at least three (3) feet wide in the panel of such rolling or sliding door.

(d) Floor areas devoted to the manufacturing, storing or handling of any easily combustible or highly inflammable material, which are above the first story, shall be completely enclosed from the rest of the building by fire-resistive partitions without openings, and there shall be at least two (2) stairways enclosed by walls built of approved fire-resistive materials and located on opposite sides of the floor area leading to the floor below in such a manner that an unobstructed access shall be had to the stairways required by this act, leading out of the building. All such floor areas shall be provided with an approved automatic sprinkler system.

(e) Easily combustible or highly inflammable material shall not be stored or kept in the basement or cellar.

**Section 946.** (a) In buildings of Class Va prior erected, the minimum floor space to be allowed per person working in the day time shall be not less than twenty-five (25) square feet and the minimum floor space to be allowed per person working at night shall be not less than forty (40) square feet.

(b) The air space to be allowed per person working in the day time shall be not less than three hundred (300) cubic feet, and per person working at night shall be not less than four hundred and eighty (480) cubic feet.

(c) All rooms and floor areas in such buildings used as work rooms shall have an aggregate window surface of at least one-eighth ( $\frac{1}{8}$ ) of the floor area so arranged that all parts of the room or floor area are adequately lighted.

**Section 947.** (a) In buildings of Class Va prior erected where from the nature of the occupancy, or where required by law, it is



necessary for employes to change their clothing, separate dressing rooms shall be provided for men and women, located as close as practicable to toilet rooms.

(b) The area of the floor space of such rooms, exclusive of the space occupied by the lockers hereinafter prescribed or other encroachments, shall be not less than eight (8) square feet for each employe using such room, but in no case shall a dressing room contain less than thirty-five (35) square feet of floor area.

(c) Such dressing rooms shall be equipped with one (1) individual ventilated locker for each employe and each locker shall be not less than one (1) foot wide, one (1) foot deep and three (3) feet high.

(d) All workshops and factories in which more than ten (10) women are employed shall be provided with one (1) or more well lighted and ventilated lunch rooms. Such rooms shall have a floor area of not less than (10) square feet per person.

Section 948. Where buildings of Class Va prior erected are occupied after sunset, all parts thereof including dressing rooms, locker rooms, toilet rooms, halls, stairways and outside passageways leading to the street shall be provided with a sufficient number of gas, oil, vapor or electric lights, located so as to furnish adequate light. Oil or vapor lamps may be used for illumination only where electric current or gas is not available.

Section 949. Buildings of Class Va prior erected three (3) stories or more in height shall have at least one (1) bulkhead or scuttle in the roof, which shall be easily accessible from every point of the topmost story. Such bulkheads shall be located as near as possible to the outside stairway or tower fire escape, if there is such, and such outside stairway or tower fire escape shall be extended so as to be accessible from the roof.

Section 950. (a) Buildings of Class Va prior erected three (3) or more stories in height whenever it shall be deemed necessary by the Local or State Fire Marshal shall have at least one (1) standpipe with fire hose and attachments as required by this act, and shall have one (1) such standpipe for every one hundred (100) feet of greatest dimension. Such standpipe shall be constructed so that the outlet on every floor shall be at or near the stairway.

(b) Every floor area completely enclosed by unpierced fire walls or fire-resistive partitions shall be provided with one (1) such standpipe.

(c) Where the public water supply will not produce a pressure of thirty (30) pounds at the nozzle of the branch pipe, a water tank shall be installed with a capacity subject to the approval of the Local or State Fire Marshal. The pipe leading from such tank

(b) There shall be at least two (2) stairways between every floor located as far apart as practicable and as often as practicable one (1) of the outside walls of the building shall constitute one (1) of the enclosing walls of the stairway. Such stairway shall be enclosed throughout by walls built of approved fire-resistive materials. At floor landings the top of one (1) flight of stairs shall be not more than twenty-five (25) feet away from the bottom of the next flight of stairs, and the floor space between such flights shall be completely enclosed by partitions constructed of approved fire-resistive materials. Entrance to such enclosed space shall be had by means of vestibules.

(c) Risers shall be not more than eight (8) inches high and treads not less than nine (9) inches wide, and no stairway shall be less than four (4) feet in width.

(d) Every flight of stairs shall have a hand rail on each side at least three (3) feet high which may be of wood. Stairways eight (8) feet or more in width shall have in addition double intermediate hand rails with end newel posts at top and bottom landings not less than seven (7) feet in height.

(e) Window openings will be permitted in such stairway enclosures for light, but such openings must be covered with wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in fixed metal sash.

(f) A tower fire escape may be substituted for one (1) of the stairways herein required; provided that, it is used as one (1) of the ordinary means of ingress and egress; and provided further that, it is located as far as practicable from the other stairway.

(g) Doors leading into such stairways shall be approved double swinging hinged fire doors, and it shall be unlawful to block open or latch back any such door.

(h) Where the cost of making changes in such buildings in order to comply with the provisions of this section will be prohibitive, and where the practical benefits intended to be secured by the application of this section can be obtained without complying with the strict letter of this section, the State Building Commissioner or Chief Building Inspector may, in his discretion, permit such deviations from the requirements of this section as may seem to be just and reasonable; provided that, in every such case a record in writing is made of such deviations, together with the reasons therefor, and shall be kept on file for public inspection.

Section 943. (a) In buildings of Class Va prior erected all exit doors, and all doors leading to exits shall open outward.

(b) Doors of all rooms of such buildings which are habitually cupied by ten (10) or more persons and which open onto a hall



necessary for employes to change their clothing, separate dressing rooms shall be provided for men and women, located as close as practicable to toilet rooms.

(b) The area of the floor space of such rooms, exclusive of the space occupied by the lockers hereinafter prescribed or other encroachments, shall be not less than eight (8) square feet for each employe using such room, but in no case shall a dressing room contain less than thirty-five (35) square feet of floor area.

(c) Such dressing rooms shall be equipped with one (1) individual ventilated locker for each employe and each locker shall be not less than one (1) foot wide, one (1) foot deep and three (3) feet high.

(d) All workshops and factories in which more than ten (10) women are employed shall be provided with one (1) or more well lighted and ventilated lunch rooms. Such rooms shall have a floor area of not less than (10) square feet per person.

Section 948. Where buildings of Class Va prior erected are occupied after sunset, all parts thereof including dressing rooms, locker rooms, toilet rooms, halls, stairways and outside passageways leading to the street shall be provided with a sufficient number of gas, oil, vapor or electric lights, located so as to furnish adequate light. Oil or vapor lamps may be used for illumination only where electric current or gas is not available.

Section 949. Buildings of Class Va prior erected three (3) stories or more in height shall have at least one (1) bulkhead or scuttle in the roof, which shall be easily accessible from every point of the topmost story. Such bulkheads shall be located as near as possible to the outside stairway or tower fire escape, if there is such, and such outside stairway or tower fire escape shall be extended so as to be accessible from the roof.

Section 950. (a) Buildings of Class Va prior erected three (3) or more stories in height whenever it shall be deemed necessary by the Local or State Fire Marshal shall have at least one (1) standpipe with fire hose and attachments as required by this act, and shall have one (1) such standpipe for every one hundred (100) feet of greatest dimension. Such standpipe shall be constructed so that the outlet on every floor shall be at or near the stairway.

(b) Every floor area completely enclosed by unpierced fire walls or fire-resistive partitions shall be provided with one (1) such standpipe.

(c) Where the public water supply will not produce a pressure of thirty (30) pounds at the nozzle of the branch pipe, a water tank shall be installed with a capacity subject to the approval of the Local or State Fire Marshal. The pipe leading from such tank

shall have a check valve so placed as to prevent water from being forced back into the tank. All standpipes shall be connected to a pipe leading to the street where such pipe shall be provided with standard fire department hose couplings and self-closing valves.

(d) Every standpipe shall be provided at each floor with a water gauge.

(e) There shall be at least one (1) approved two and one-half (2½) gallon chemical hand fire extinguisher located on every floor area, and at least two (2) in floor areas of eight thousand (8,000) square feet or more. Such chemical hand fire extinguisher, shall be located subject to the approval of the Local or State Fire Marshal.

(f) Where deemed necessary by the Local or State Fire Marshal from the nature of the use of the building additional hand fire apparatus may be required.

(g) In all such buildings more than three (3) stories in height occupied by more than twenty-five (25) employes and in which combustible materials are manufactured or kept there shall be an approved automatic sprinkler system installed in the basement or in the cellar where there is no basement.

(h) All standpipes, automatic sprinklers and hand fire apparatus herein required for such buildings shall at all times be under the control of the Local or State Fire Marshal and subject to such additional regulations as he may impose.

Section 951. Buildings of Class Va prior erected more than two (2) stories in height shall be provided with an approved system of fire gongs. One (1) such gong shall be located in each of the two (2) principal stairways required by this act, and one (1) in each floor area. All fire gongs shall be so connected that they may be rung from any story or from the basement or cellar.

Section 952. (a) In buildings of Class Va prior erected more than two (2) stories in height and occupied by more than twenty-five (25) employes or in which women are employed it shall be the duty of the owner, agent or person in possession, charge or control to establish and maintain a good and efficient fire drill which shall be practiced at least twice in every month. It shall be the duty of such person to make a written report every six (6) months to the Local or State Fire Marshal which report shall show the number of fire drills and the time that elapsed from the first fire signal until the last person was out of the building. Such reports shall be made upon blanks to be furnished by the Local or State Fire Marshal, and it shall be unlawful for any person to make a report of a fire drill when none occurred or to misrepresent the same.

(b) It shall also be the duty of such person to cause an examination to be made of all fire escapes, doors, windows and passageways



leading to exits at least once in every week, and to make a written report of the same to the Local or State Fire Marshal every six (6) months. Such report shall show the number of examinations made and the condition in which the fire escapes, doors, windows and passageways were found. Such reports shall be made upon blanks furnished by the Local or State Fire Marshal, and it shall be unlawful for such person to make any false report or to misrepresent the actual conditions.

(c) The duties herein imposed in this section shall not be held to relieve the Local or State Fire Marshal or the State Building Commissioner or Chief Building Inspector from such duties as are otherwise required of them.

Section 953. (a) In buildings of Class Va prior erected there shall be separate toilet rooms for men and women connected with a public or private sewer system, except that where there is no public or private sewer system some method of disposal of sewage approved by the State Department of Health may be adopted. All toilet rooms shall be plainly marked "Men" or "Women," as the case may be, and shall be confined strictly for their respective use.

(b) All toilet fixtures and plumbing shall be installed as required by this act.

(c) Toilet rooms shall be placed not more than one (1) story above or below any story used by the employees, and the walking distance to the same shall not exceed one hundred and fifty (150) feet.

(d) Toilet rooms for women shall be so located, and the means of reaching the same so screened or secluded as not to cause any unnecessary exposure, and so arranged as not to compel women to pass through parts of the building occupied only by men. Toilet rooms for women shall not be placed in the basement unless such basement is used as a workroom and women are employed therein.

(e) Toilet rooms for men shall be so screened or secluded as not to expose the fixtures therein to parts of the building used by women.

(f) Toilet rooms for men and women shall not be less than twenty (20) feet from each other.

(g) Unless otherwise approved by the Local Board of Health or State Department of Health, all toilet rooms shall be within the building, and shall not be provided with less than the following fixtures:

One (1) water-closet for every twenty-five (25) men or fractional part thereof.

One (1) water-closet for every twenty (20) women or fractional part thereof.

One (1) urinal for every fifty (50) men or fractional part thereof.

Section 958. (a) The following special requirements for buildings of Class Vb hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 959. (a) Buildings of Class Vb hereafter erected, not over thirty (30) feet in height may be of frame construction.

(b) All such buildings more than thirty (30) feet in height shall be of fire-resistive construction; except that buildings not within sixty (60) feet of any other building, structure or lot line may be of any form of construction.

Section 960. In buildings of Class Vb hereafter erected no story shall be less than twelve (12) feet in height.

Section 961. (a) Buildings of Class Vb hereafter erected shall be designed and constructed so that the floors in every case shall safely sustain any live load that may be set upon them incidental to the business for which such building is used and in no case shall be less than one hundred and twenty (120) pounds per square foot.

(b) It shall be the duty of the State Building Commissioner or Chief Building Inspector to make such examinations as may be necessary to determine the safe allowable live load for the particular business for which the building is used, and it shall be the duty of the owner, agent or occupant in charge or possession to post a placard in a conspicuous place stating the maximum allowable live load per square foot. It shall be unlawful for any one to load any floor, landing or portion thereof in excess of this maximum load.

(c) All such placards must be posted and continuously maintained during the entire period that such building is used for such business, and no such building shall be used for any other business or purpose whatever unless the State Building Commissioner or Chief Building Inspector shall have first been notified and until an examination has been made to determine the safe allowable live load. All placards must be verified and approved by the State Building Commissioner or Chief Building Inspector before being posted.

(d) The stairs, stairways and fire escapes of such buildings shall be designed and constructed to safely sustain a live load of one hundred and fifty (150) pounds per square foot of surface of treads and landings.

Section 962. (a) In buildings of Class Vb hereafter erected there shall be at least two (2) means of egress, located as far apart as practicable, at least one of which shall open onto a street where the building adjoins a street.



that, the same are put in writing and placed on file for public inspection.

Section 956. (a) In buildings of Class Va prior erected where the nature of the work requires a building with partly open walls or roofs no system of heating or ventilating is required, but water-tight roofs and wind shields or screens shall be provided covering as great an area as possible without interfering with the operation of the plant.

(b) No heating or ventilating system will be required in such building where refrigerating apparatus is installed or operated, or in such buildings used only in warm weather.

(c) All other buildings or parts of buildings of this class shall be heated to fifty (50) degrees in zero weather where the occupants are performing hard labor, and to seventy (70) degrees in zero weather where the occupants are performing light labor or are working at counters or benches.

(d) In all parts of such buildings enclosed by walls, ceilings and floors, except where the nature of the occupancy will not permit and where the gross cubical contents of the enclosed space will not permit, an approved heating and ventilating system shall be installed, which at normal temperature will supply to each person eighteen hundred (1,800) cubic feet of air per hour.

(e) Each dressing room in such building contained more than ten (10) lockers, and each toilet room shall be provided with a system of ventilation which will remove the air six (6) times per hour.

(f) Such buildings used as bakeries, laundries or kitchens shall be provided with a system of ventilation which will remove the air not less than six (6) times per hour.

(g) Floor registers will not be permitted in any part of such buildings, and ventilating openings between floors or subdivided floor areas will not be permitted. All ventilating flues shall supply each floor or floor area independently.

**Special Requirements for Buildings of Class Vb Hereafter Erected.—  
Grain Elevators, Etc.**

Section 957. In Class V shall be included buildings used for manufacturing or storage purposes.

(a) Factories (including mills, except powder mills, workshops, foundries, blast furnaces, etc.).

(b) Grain Elevators, Cold Storage Houses, Warehouses, Breweries, Distilleries, Slaughter Houses or Abattoirs, and packing Houses.

(c) Powder Mills, Oil Refineries and Gasometers.

(d) Power Plants.

Section 958. (a) The following special requirements for buildings of Class Vb hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 959. (a) Buildings of Class Vb hereafter erected, not over thirty (30) feet in height may be of frame construction.

(b) All such buildings more than thirty (30) feet in height shall be of fire-resistive construction; except that buildings not within sixty (60) feet of any other building, structure or lot line may be of any form of construction.

Section 960. In buildings of Class Vb hereafter erected no story shall be less than twelve (12) feet in height.

Section 961. (a) Buildings of Class Vb hereafter erected shall be designed and constructed so that the floors in every case shall safely sustain any live load that may be set upon them incidental to the business for which such building is used and in no case shall be less than one hundred and twenty (120) pounds per square foot.

(b) It shall be the duty of the State Building Commissioner or Chief Building Inspector to make such examinations as may be necessary to determine the safe allowable live load for the particular business for which the building is used, and it shall be the duty of the owner, agent or occupant in charge or possession to post a placard in a conspicuous place stating the maximum allowable live load per square foot. It shall be unlawful for any one to load any floor, landing or portion thereof in excess of this maximum load.

(c) All such placards must be posted and continuously maintained during the entire period that such building is used for such business, and no such building shall be used for any other business or purpose whatever unless the State Building Commissioner or Chief Building Inspector shall have first been notified and until an examination has been made to determine the safe allowable live load. All placards must be verified and approved by the State Building Commissioner or Chief Building Inspector before being posted.

(d) The stairs, stairways and fire escapes of such buildings shall be designed and constructed to safely sustain a live load of one hundred and fifty (150) pounds per square foot of surface of treads and landings.

Section 962. (a) In buildings of Class Vb hereafter erected there shall be at least two (2) means of egress, located as far apart as practicable, at least one of which shall open onto a street where the building adjoins a street.



(b) In such building there shall be at least two (2) means of access to each floor which shall be located as far apart as practicable and accessible from all parts of each floor. One (1) of such means of access shall be a stairway which shall be enclosed throughout by walls built of approved fire-resistive materials. At floor landings the top of one (1) flight of stairs shall be not more than twenty-five (25) feet away from the bottom of the next flight of stairs, and the floor space between such flights shall be completely enclosed by partitions constructed of approved fire-resistive materials. Entrance to such enclosed space shall be had by means of vestibules.

(c) Risers shall be not more than eight (8) inches high and treads not less than nine (9) inches wide, and no stairway shall be less than four (4) feet in width.

(d) Window openings will be permitted in such stairway enclosures for light, but such openings must be covered with wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in fixed metal sash.

(e) In lieu of the stairway herein required a tower fire escape may be substituted; provided that, it is used as one of the ordinary means of ingress to and egress from the building.

(f) Doors leading into such stairways shall be approved double swinging hinged fire doors, and it shall be unlawful to block open or latch back any such door.

(g) In such building where women are employed above the first story there shall be two (2) stairways, located as far apart as practicable, constructed as herein required between each floor.

Section 963. (a) In buildings of Class Vb hereafter erected all exit doors and all doors leading to exits shall open outward.

(b) Doors of all rooms of such buildings which are habitually occupied by ten (10) or more persons and which open onto a hall leading to an exit shall be swung so as to open in the direction of the exit.

(c) At least one (1) exit door shall be unlocked at all times that employes, with the exception of the watchman, are regularly employed therein.

Section 964. Buildings of Class Vb hereafter erected three (3) stories or more in height shall have at least one (1) bulkhead or scuttle in the roof, which shall be easily accessible from every point of the topmost story. Such bulkheads shall be located as near as possible to the outside stairway or tower fire escape if there is such and such outside stairway or tower fire escape shall be extended so as to be accessible from the roof.

Section 965. (a) In buildings of Class Vb hereafter erected where from the nature of the occupancy or where required by law, it is necessary for employes to change their clothing, separate dressing

rooms shall be provided for men and women, located as close as practicable to toilet rooms.

(b) The area of the floor space of such rooms, exclusive of the space occupied by the lockers hereinafter prescribed or other encroachments, shall be not less than eight (8) square feet for each employe using such room, but in no case shall a dressing room contain less than thirty-five (35) square feet of floor area.

(c) Such dressing rooms shall be equipped with one (1) individual ventilated locker for each employe and each locker shall be not less than one (1) foot wide, one (1) foot deep and three (3) feet high.

(d) All such buildings in which more than ten (10) women are employed shall be provided with one (1) or more well lighted and ventilated lunch rooms. Such rooms shall have a floor area of not less than ten (10) square feet per person.

**Section 966.** (a) Buildings of Class Vb hereafter erected three (3) stories or more in height shall have at least one (1) standpipe with fire hose and attachments as required by this act, and shall have one (1) such standpipe for every one hundred (100) feet of greatest dimension. Such standpipe shall be constructed so that the outlet on every floor shall be at or near the enclosed stairway.

(b) Where the public water supply will not produce a pressure of thirty (30) pounds at the nozzle of the branch pipe, a water tank shall be installed with a capacity subject to the approval of the Local or State Fire Marshal. The pipe leading from such tank shall have a check valve so placed as to prevent water from being forced back into the tank. All standpipes shall be connected to a pipe leading to the street where such pipe shall be provided with standard fire department hose couplings and self-closing valves.

(c) Every standpipe shall be provided at each floor with a water gauge.

(d) There shall be at least one (1) approved two and one-half (2½) gallon chemical hand fire extinguisher located on every floor at or near the enclosed stairway, and there shall be such additional chemical hand fire extinguishers and other fire apparatus as the Local or State Fire Marshal may deem necessary.

(e) All standpipes, automatic sprinklers and hand fire apparatus herein required for such buildings shall at all times be under the control of the Local or State Fire Marshal and subject to such additional regulations as he may impose.

**Section 967.** (a) In buildings of Class Vb hereafter erected where more than twenty-five (25) people are employed above the first story, no steam boiler operated at a pressure in excess of thirty-five



(35) pounds shall be located within the main walls of the building, except boilers of ten (10) and less horse power.

(b) No cast iron steam boilers shall be operated at a pressure in excess of ten (10) pounds.

(c) Furnaces, hot water heating boilers and low pressure steam boilers and high pressure steel boilers of not more than ten (10) horse power may be located in the building; provided that, the heating apparatus, including the breeching, fuel room, and firing place, are enclosed by walls and ceilings built of approved fire-resistant materials. All openings into the same from the other parts of the building shall be covered by approved self-closing hinged fire doors.

(d) No furnace or boilers shall be located under any lobby, exit, stairway or passageway.

Section 968. (a) In buildings of Class Vb hereafter erected no heating or ventilating system will be required where refrigerating apparatus is installed or operated or in such buildings used only in warm weather.

(b) All other buildings or parts of buildings of this class regularly used by employes shall be heated to fifty (50) degrees in zero weather where the occupants are performing hard labor, and to seventy (70) degrees in zero weather where the occupants are performing light labor or are working at counters or benches.

(c) In all such buildings or parts of buildings which are occupied by employes so as to give each employe less than six hundred (600) cubic feet of air space, an approved heating and ventilating system shall be installed.

(d) Each dressing room in such building containing more than ten (10) lockers, and each toilet room shall be provided with a system of ventilation which will remove the air six (6) times per hour.

(e) Floor registers will not be permitted in any part of such buildings, and ventilating openings between floors or subdivided floor areas will not be permitted. All ventilating flues shall supply each floor or floor area independently.

**Special Requirements for Buildings of Class Vb Prior Erected.—  
Grain Elevators, etc.**

Section 969. In Class V shall be included buildings used for manufacturing or storage purposes.

(a) Factories, (including mills, except powder mills, workshops, foundries, blast furnaces, etc.).

(b) Grain Elevators, Cold Storage Houses, Warehouses, Breweries, Distilleries, Slaughter Houses or Abattoirs, and Packing Houses.

(c) Powder Mills, Oil Refineries and Gasometers.

(d) Power Plants.

Section 970. (a) The following special requirements for buildings of Class Vb prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 971. (a) Buildings of Class Vb prior erected, not over thirty (30) feet in height, may be of frame construction.

(b) All such buildings more than thirty (30) feet in height shall be of fire-resistive construction; except that buildings not within sixty (60) feet of any other building, structure or lot line may be of any form of construction.

(c) Where any such building does not comply with the provisions of this section it shall be the duty of the State Building Commissioner or Chief Building Inspector and the Local or State Fire Marshal to make an examination of the same and to prescribe such reasonable modifications or changes that may be necessary for the protection of life and property.

Section 972. (a) Buildings of Class Vb prior erected shall be designed and constructed so that the floors in every case shall safely sustain any live load that may be set upon them incidental to the business for which such building is used, and in no case shall be less than one hundred and twenty (120) pounds per square foot.

(b) It shall be the duty of the State Building Commissioner or Chief Building Inspector to make such examinations as may be necessary to determine the safe allowable live load for that particular business for which the building is used, it shall be the duty of the owner, agent or occupant in charge or possession to post a placard in a conspicuous place stating the maximum allowable live load per square foot. It shall be unlawful for any one to load any floor, landing or portion thereof in excess of this maximum load.

(c) All such placards must be posted and continuously maintained during the entire period that such building is used for such business, and no such building shall be used for any other business or purpose whatever unless the State Building Commissioner or Chief Building Inspector shall have first been notified and until an examination has been made to determine the safe allowable live load. All placards must be verified and approved by the State Building Commissioner or Chief Building Inspector before being posted.

(d) The stairs, stairways and fire escapes of such buildings shall be designed and constructed to safely sustain a live load of one



hundred and fifty (150) pounds per square foot of surface of treads and landings.

Section 973. (a) In buildings of Class Vb prior erected there shall be at least two (2) means of egress, located as far apart as practicable, at least one of which shall open onto a street where the building adjoins a street.

(b) In such buildings there shall be at least two (2) means of access to each floor which shall be located as far apart as practicable and accessible from all parts of each floor. One (1) of such means of access shall be a stairway which shall be enclosed throughout by walls built of approved fire-resistive materials. At floor landings the top of one (1) flight of stairs shall be not more than twenty-five (25) feet away from the bottom of the next flight of stairs, and the floor space between such flights shall be completely enclosed by partitions constructed of approved fire-resistive materials. Entrance to such enclosed space shall be had by means of vestibules.

(c) Risers shall be not more than eight (8) inches high and treads not less than nine (9) inches wide, and no stairway shall be less than four (4) feet in width.

(d) Window openings will be permitted in such stairway enclosures for light, but such openings must be covered with wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in fixed metal sash.

(e) In lieu of the stairway herein required a tower fire escape may be substituted; provided that, it is used as one of the ordinary means of ingress to and egress from the building.

(f) Doors leading into such stairways shall be approved double swinging hinged fire doors, and it shall be unlawful to block open or latch back any such door.

(g) In such buildings where women are employed above the first story there shall be two (2) stairways, located as far apart as practicable, constructed as herein required between each floor.

(h) Where the cost of making changes in such buildings, in order to comply with the provisions of this act, will be prohibitive, and where the practical benefits intended to be secured by the application of this section can be obtained without complying with the strict letter of this section, the State Building Commissioner or Chief Building Inspector may, in his discretion, permit such deviations from the requirements of this section as may seem to be just and reasonable; provided that, in every case a record in writing is made of such deviations, together with the reasons therefor, and shall be kept on file for public inspection.

Section 974. (a) In buildings of Class Vb prior erected all exit doors and all doors leading to exits shall open outward.

(b) Doors of all rooms of such buildings which are habitually occupied by ten (10) or more persons and which open onto a hall leading to an exit shall be swung so as to open in the direction of the exit.

(c) At least one (1) exit door shall be unlocked at all times that employes, with the exception of the watchman, are regularly employed therein.

Section 975. Buildings of Class Vb prior erected three (3) stories or more in height shall have at least one (1) bulkhead or scuttle in the roof, which shall be easily accessible from every point of the topmost story. Such bulkhead shall be located as near as possible to the outside stairway or tower fire escape, if there is such, and such outside stairway or tower fire escape shall be extended so as to be accessible from the roof.

Section 976. (a) In buildings of Class Vb prior erected where from the nature of the occupancy, or where required by law, it is necessary for employes to change their clothing, separate dressing rooms shall be provided for men and women, located as close as practicable to the toilet rooms.

(b) The area of the floor space of such rooms, exclusive of the space occupied by the lockers hereinafter prescribed or other encroachments, shall be not less than eight (8) square feet for each employe using such room, but in no case shall a dressing room contain less than thirty-five (35) square feet of floor area.

(c) Such dressing rooms shall be equipped with one (1) individual ventilated locker for each employe and each locker shall be not less than one (1) foot wide, one (1) foot deep and three (3) feet high.

(d) All such buildings in which more than ten (10) women are employed shall be provided with one (1) or more well lighted and ventilated lunch rooms. Such rooms shall have a floor area of not less than ten (10) square feet per person.

Section 977. (a) Buildings of Class Vb prior erected three (3) stories or more in height where is shall be deemed necessary by the Local or State Fire Marshal, shall have at least one (1) standpipe with fire hose and attachments as required by this act, and shall have one (1) such standpipe for every one hundred (100) feet of greatest dimension. Such standpipe shall be constructed so that the outlet on every floor shall be at or near the stairway.

(b) Where the public water supply will not produce a pressure of thirty (30) pounds at the nozzle of the branch pipe, a water tank shall be installed with a capacity subject to the approval of the Local or State Fire Marshal. The pipe leading from such tank shall have a check valve so placed as to prevent water from being forced



(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 983. (a) Buildings of Class Vc hereafter erected shall be located on sites which shall first be approved by the State Building Commissioner and subject to any laws or ordinances regulating the location of such buildings.

(b) All such buildings shall be subject to the approval of the State Building Commissioner, and wherever possible such State Building Commissioner shall prescribe rules and regulations governing the erection of such buildings, and such rules and regulations shall be kept on file for public inspection.

(c) Before any permit shall be issued for the construction of any such building the plans shall first be approved by the State Department of Health, and such buildings shall be maintained in such manner as shall be directed by the State Department of Health.

Section 984. (a) Buildings of class Vc hereafter erected shall be provided with a method of disposing of by-products and wastes, so as not to contaminate any streams or waters of the Commonwealth. Any such building failing to comply with the provisions of this section shall be deemed a nuisance and may be ordered vacated by the State Building Commissioner or Chief Building Inspector or by the State Department of Fisheries or by the State Department of Health.

(b) Where oil is stored along waterways or on sites where adjacent properties may be flooded by the bursting of the storage tanks, suitable walls and embankments shall be provided around the storage tanks or plants of such a height as to give a reservoir capacity equal to the volume of all the tanks within the walls and embankments. Where boiler power plants are so situated as to be liable to be flooded by the bursting of the tanks they shall be protected by suitable walls or embankments on all sides.

Section 985. (a) Buildings of class Vc hereafter erected in which an artificial system of heating is in operation shall be heated by either steam or hot water. Hot air furnaces will not be permitted.

(b) The heater room including the breeching, fuel room and firing space shall be located outside and at a safe distance from the building, and may be under the ground or in an isolated building. Such isolated building shall be constructed of approved fire-resistive materials, and all openings thereto shall be covered by approved self-closing hinged fire doors.

(c) Steam pipes must not be placed in concealed places covered by wood, and wherever necessary to pass through wooden partitions or floors or near rafters or other woodwork such pipes must be covered by an approved pipe covering of approved thickness.

Special Requirements for Buildings of Class Vc Prior Erected.—  
Powder Mills, Etc.

Section 986. In class V shall be included buildings used for manufacturing or storage purposes.

(a) Factories. (Including mills except powder mills, workshops, foundries, blast furnaces, etc.).

(b) Grain elevators, cold storage houses, warehouses, breweries, distilleries, slaughter houses or abattoirs, and packing houses.

(c) Powder mills, oil refineries and gasometers.

(d) Powder plants.

Section 987. (a) The following special requirements for buildings of class Vc prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 988. Buildings of class Vc prior erected shall be subject to the approval of the State Building Commissioner, and wherever possible and wherever it is deemed necessary by the State Building Commissioner or Chief Building Inspector for the safeguarding of life and property they shall prescribe rules and regulations governing the construction and maintenance of such buildings, and such rules and regulations shall be kept on file for public inspection.

Section 989. (a) Buildings of class Vc prior erected shall be provided with a method of disposing of by-products and wastes, so as not to contaminate any streams of water of the Commonwealth. Any such building failing to comply with the provisions of this section shall be deemed a nuisance and may be ordered vacated by the State Building Commissioner or Chief Building Inspector or by the State Department of Fisheries, or by the State Department of Health.

(b) Where oil is stored along waterways or on sites where adjacent properties may be flooded by the bursting of the storage tanks, suitable walls and embankments shall be provided around the storage tanks or plants of such a height as to give a reservoir capacity equal to the volume of all the tanks within the walls and embankments. Where boiler power plants are so situated as to be liable to be flooded by the bursting of the tanks they shall be protected by suitable walls or embankments on all sides.

Section 990. (a) Buildings of class Vc prior erected in which an artificial system of heating is in operation shall be heated by either steam or hot water. Hot air furnaces will not be permitted.

(b) The heater room including the breeching, fuel room and firing space shall be located outside of and at a safe distance from the



(b) Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

Section 1003. (a) In buildings of class VIa hereafter erected all main exit doors shall open outward. Such doors shall remain unlocked and unfastened during the time the building is open to the public, and no obstructions of any kind shall be placed in the exit opening or the passageway leading thereto.

(b) Such doors shall be at least five (5) feet in width in the clear.

(c) Revolving doors will be permitted in such buildings to be used at main exits; provided that, there is adjacent thereto at least one (1) hinged door, five (5) feet in width for every such revolving door.

Section 1004. (a) In buildings of class VIa hereafter erected the least dimension for inner courts shall be sixteen (16) feet with a minimum ground area of two hundred and fifty-six (256) square feet.

(b) Lot line courts of such buildings shall have a minimum ground area of two hundred and fifty-six (256) square feet. The least dimension of such lot line courts may be eight (8) feet; provided that, such least dimension is measured at right angles to the lot line.

(c) There shall be an unobstructed passageway leading to the street from all inner courts and from lot line courts where they are enclosed by other buildings.

Section 1005. (a) Buildings of class VIa hereafter erected which are so built as to form a part of another building shall be separated from such building or part thereof by fire walls. Exit openings in such fire walls not more than five (5) feet in width will be permitted; provided that, they are equipped with approved fire doors. Such fire doors shall not be blocked open or latched back at any time.

Section 1006. (a) In buildings of class VIa hereafter erected there shall be at least two (2) stairways located on opposite sides of the building or as far apart as practicable, leading to independent main exits of the building; except that, one tower fire escape constructed as required by this act may be substituted in lieu of one (1) such stairway.

(b) Such stairways shall be entirely enclosed throughout by walls constructed of approved fire-resistive materials. At floor landings the top of one (1) flight of stairs shall be not more than twenty-five (25) feet away from the bottom of the next flight of stairs, and the floor space between such flights shall be completely enclosed by partitions constructed of approved fire-resistive materials. Entrance to such enclosed space shall be had by means of vestibules.

(c) Risers shall be not more than eight (8) inches high and treads not less than nine (9) inches wide, and no stairway shall be less than four (4) feet in width.

Section 1007. In Buildings of class VIa hereafter erected where combustible material is stored or kept in the basement or cellar an approved automatic sprinkler system shall be installed in the basement or in the cellar, if there is no basement.

Section 1008. (a) In buildings of class VIa hereafter erected, three (3) stories or more in height there shall at least one (1) standpipe with fire hose attached constructed as required by this act with outlets on every floor placed at or near the stairways. There shall be a sufficient number of such standpipes and fire hose to reach every part of every floor of such building.

(b) There shall be at least two (2) two and one-half (2½) gallon hand chemical fire extinguisher placed near each outlet on every floor.

(c) Where the public water supply will not produce a pressure of thirty (30) pounds at the nozzle of the branch pipe, a water tank shall be installed with a capacity subject to the approval of the Local or State Fire Marshal. The pipe leading from such tank shall have a check valve so placed as to prevent water from being forced back into the tank. All standpipes shall be connected to a pipe leading to the street where such pipe shall be provided with standard Fire Department hose couplings and self-closing valves.

(d) Every standpipe shall be provided at each floor with a water gauge.

Section 1009. (a) In buildings of class VIa hereafter erected there shall be a sign with the word "Exit" in white letters at least six (6) inches high over all entrances to stairways and there shall also be a sign with white letters at least six (6) inches high attached to the elevator shaft directly adjacent to the elevator door indicating the way to the nearest stairway and fire escape.

(b) Illuminated signs may be substituted for the signs herein required with the approval of the State Building Commissioner or Chief Building Inspector. Red lights may be used, if desired, in addition to the exit signs as herein required.

Section 1010. Buildings of class VIa hereafter erected, three (3) stories or more in height shall have at least one (1) bulkhead or scuttle in the roof which shall be easily accessible from every point of the topmost story. Such bulkhead shall be located as near as possible to a stairway or to the tower fire escape where there is such, and such tower fire escape shall be extended so as to be easily accessible from the roof.



Section 1011. In buildings of class VIa hereafter erected the handling or storing of highly inflammable material is prohibited.

Section 1012. In buildings of class VIa hereafter erected more than two (2) stories in height there shall be at least one (1) general toilet room for men and one (1) general toilet room for women. There shall be at least one (1) drinking fountain on every floor.

Section 1013. (a) In buildings of class VIa hereafter erected steam boilers used for supplying heat and power for the building in which they are situated shall not be located under an elevator, stairway, passageway, common hall or exit. General power plants other than low pressure heating plants which are used for supplying power for buildings other than the one (1) in which they are located are prohibited within the main walls of the building.

(b) In such buildings no cast iron steam boiler shall be operated at a pressure in excess of ten (10) pounds.

(c) Furnaces and boilers within the building, together with the breeching, fuel room and firing room shall be enclosed in rooms having walls and ceilings constructed of approved fire-resistive materials, and all openings into the same shall be covered with approved self-closing hinged fire doors.

Special Requirements for Buildings of Class VIa Prior Erected—  
Office Buildings, Etc.

Section 1014. In class VI shall be included:

- (a) Office Buildings.
- (b) Stores and Mercantile Establishments.
- (c) Garages and stables.

Section 1015. (a) The following special requirements for buildings of class VIa prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 1016. (a) Buildings of class VIa prior erected more than five (5) stories in height shall be of fire-resistive construction.

(b) Any such building more than three (3) stories in height and designed for occupancy or actually occupied by more than ten (10) persons above the second story shall be subject to such safe guards and requirements in addition to those required by this act as the State Building Commissioner or Chief Building Inspector may deem necessary.

(c) No such building of frame construction designed to be occupied or actually occupied by more than ten (10) persons above the first story may be more than two (2) stories in height.

Section 1017. (a) Buildings of class VIa prior erected shall be so designed and constructed that the floors shall safely sustain in addition to the weight of the floor construction, partitions, permanent fixtures and mechanisms that may be set upon them a live load of not less than one hundred (100) pounds on every square foot of surface and the stairs and stairways a live load of not less than one hundred and fifty (150) pounds on every square foot of treads and landings.

(b) Roofs shall safely sustain a live load of forty (40) pounds on every square foot of surface.

(c) It shall be the duty of the State Building Commissioner or Chief Building Inspector to make such examinations as may be necessary to determine the allowable live load, and to make such regulations as may be necessary to enable the floors of such buildings to withstand the load herein required.

Section 1018. (a) In buildings of class VIa prior erected all main exit doors shall open outward. Such doors shall remain unlocked and unfastened during the time the building is open to the public, and no obstructions of any kind shall be placed in the exit opening or the passageway leading thereto.

(b) Such doors shall be at least five (5) feet in width in the clear.

(c) Revolving doors will be permitted in such buildings to be used at main exits; provided that, there is adjacent thereto at least one (1) hinged door five (5) feet in width for every such revolving door.

Section 1019. (a) In buildings of class VIa prior erected there shall be an unobstructed passageway leading to the street from all inner courts and from lot line courts where they are enclosed by other buildings.

(b) Where walls which contain windows are nearer than sixteen (16) feet to any other building, structure or lot line, all windows therein shall be covered with wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames, if, in the opinion of the Local or State Fire Marshal the same shall be necessary. Such windows shall be equipped with metal shutters easily closed or opened from the outside or other approved fire shutters wherever in the opinion of the Local or State Fire Marshal the same shall be necessary.

Section 1020. (a) Buildings of class VIa prior erected which are so built as to form a part of another building shall be separated from such building or part thereof by fire walls, or by walls which are protected with a lining of at least one (1) thickness of brick, or equivalent material, or by walls protected with approved metal lath and approved fire-resistive plaster, subject to the approval of the State Building Commissioner or Chief Building Inspector. Exit openings in such fire walls will be permitted; provided that, they are



equipped with approved self-closing, hinged fire doors. Such fire doors shall not be blocked open or latched back at any time.

Section 1021. (a) In buildings of class VIa prior erected there shall be at least two (2) stairways located on opposite sides of the building or as far apart as practicable, leading to independent main exits of the building; except that, one tower fire escape constructed as required by this act may be substituted in lieu of one (1) such stairway.

(b) Such stairways shall be entirely enclosed throughout by walls constructed of approved fire-resistive materials. At floor landings the top of one (1) flight of stairs shall be not more than twenty-five (25) feet away from the bottom of the next flight of stairs, and the floor space between such flights shall be completely enclosed by partitions constructed of approved fire-resistive materials. Entrance to such enclosed space shall be had by means of vestibules.

(c) Risers shall be not more than eight (8) inches high and treads not less than nine (9) inches wide, and no stairways shall be less than four (4) feet in width.

(d) Where the cost of making changes in such buildings in order to comply with the provisions of this section will be prohibitive, and where the practical benefits intended to be secured by the application of this section can be obtained without complying with the strict letter of this section, the State Building Commissioner or Chief Building Inspector may, in his discretion, permit such deviations from the requirements of this section as may seem to be just and reasonable; provided that, in every such case a record in writing is made of such deviations, together with the reason therefor, and shall be kept on file for public inspection.

Section 1022. In buildings of class VIa prior erected where combustible material is stored or kept in the basement or cellar an approved automatic sprinkler system shall be installed in the basement or in the cellar, if there is no basement.

Section 1023. (a) In buildings of class VIa prior erected, three (3) stories or more in height, there shall be at least one (1) standpipe with fire hose attached, constructed as required by this act with outlets on every floor placed at or near the stairways. There shall be a sufficient number of such standpipes and fire hose to reach every part of every floor of such building.

(b) There shall be at least two (2) two and one-half (2½) gallon hand chemical fire extinguishers placed near each outlet on every floor.

(c) Where the public water supply will not produce a pressure of thirty (30) pounds at the nozzle of the branch pipe, a water tank shall be installed with a capacity subject to the approval of the Local

placards shall be verified and approved by the State Building Commissioner or Chief Building Inspector before being posted.

(c) The stairs, stairways and fire escapes of such buildings shall be designed and constructed to safely sustain a live load of one hundred and fifty (150) pounds per square foot of treads and landings.

Section 1033. (a) Buildings of class VIb hereafter erected which are so built as to form a part of another building shall be separated from such building or part thereof by fire walls. Exit openings in such fire walls not more than five (5) feet in width will be permitted; provided that, they are equipped with approved self-closing, hinged fire doors. Such fire doors shall not be blocked open or latched back at any time.

Section 1034. (a) In buildings of class VIb hereafter erected the least dimension for inner courts shall be sixteen (16) feet with a minimum ground area of two hundred and fifty-six (256) square feet.

(b) Lot line courts of such buildings shall have a minimum ground area of two hundred and fifty-six (256) square feet. The least dimension of such lot line court may be eight (8) feet; provided that, such least dimension is measured at right angles to the lot line.

(c) There shall be an unobstructed passageway leading to the street from all inner courts and from lot line courts where they are enclosed by other buildings.

Section 1035. (a) The walls of all buildings of class VIb hereafter erected, which contain windows, shall not be placed opposite any other wall, building or lot line nearer than eight (8) feet, except where such windows open onto a street or alley at least twenty (20) feet wide.

(b) Where any such walls are placed nearer than sixteen (16) feet to any other wall, building, structure or lot line all windows in such walls shall be covered with wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in metal frames, if in the opinion of the Local or State Fire Marshal the same shall be necessary. Such windows shall be equipped with metal shutters easily closed or opened from the outside or other approved fire shutters wherever in the opinion of the Local or State Fire Marshal the same shall be necessary.

Section 1036. (a) Buildings of class VIb hereafter erected shall have at least one (1) main exit on every street on which it abuts, and such other main exits as shall be deemed necessary by the State Building Commissioner or Chief Building Inspector.

(b) All such main exits shall have at least one (1) door not less than five (5) feet wide opening outwards. Revolving doors will be



permitted; provided that, there is at least one (1) hinged door opening outward for every such revolving door adjacent thereto.

(c) In all interior rooms of such buildings where ten (10) or more persons are employed the doors of such rooms shall open outward, and such doors shall be not less than five (5) feet wide.

Section 1037. (a) Buildings of class VIb hereafter erected shall have at least two (2) stairways between each floor, and shall have such additional stairways as shall be deemed necessary by the State Building Commissioner or Chief Building Inspector.

(b) In such buildings more than two (2) stories in height all such stairways shall be enclosed throughout by walls built of approved fire-resistive materials. At floor landings the top of one (1) flight of stairs shall be not more than twenty-five (25) feet away from the bottom of the next flight of stairs, and the floor space between such flights shall be completely enclosed by partitions constructed of approved fire-resistive materials. Entrance to such enclosed space shall be paid by means of vestibules.

(c) Risers shall be not more than eight (8) inches high and treads not less than nine (9) inches wide, and no stairway shall be less than four (4) feet in width.

(d) At every floor landing the bottom of all such stairways shall have immediate and unobstructed access to a main passageway.

(e) There shall be at least two (2) stairways constructed as required in this section leading to every basement and cellar, and such additional means of egress therefrom as may be deemed necessary by the State Building Commissioner or Chief Building Inspector.

(f) All stairways leading to basements and cellars shall be closed at both the top and bottom by approved fire doors, and where such stairways are used or intended or designed to be used by customers entrance to both the top and bottom of such stairways shall be had by means of vestibules.

Section 1038. In buildings of class VIb hereafter erected there shall be at least one (1) main passageway on each floor giving unobstructed access to stairways. Such main passageways shall be at least five (5) feet in width, and shall have parallel sides. Main passageways shall not be obstructed in any manner whatever and on the ground floor shall lead directly to a main exit.

Section 1039. In buildings of class VIb hereafter erected all vertical openings between floors shall be enclosed by fire-resistive partitions, and all openings in such partitions shall be covered by approved self-closing hinged fire doors. Openings for light in such partitions will be permitted provided they are covered with windows of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in fixed metal sash.

Section 1040. (a) In buildings of class VIb hereafter erected more than two (2) stories in height automatic sprinklers shall be installed in the basement, or in the cellar where there is no basement, and in the remaining stories of the building when such building is devoted principally for the sale of dry goods or other combustible materials.

(b) In such buildings not more than two (2) stories in height devoted principally for the sale of dry goods and other easily combustible material, and where combustible material is stored in the cellar or basement, automatic sprinklers shall be installed when deemed necessary by the Local or State Fire Marshal.

Section 1041. Buildings of class VIb hereafter erected that do not have automatic sprinklers installed on every floor shall have floor areas subdivided by fire-resistive partitions when deemed necessary by the State Building Commissioner or Chief Building Inspector.

Section 1042. In buildings of class VIb hereafter erected all excelsior, paper, clippings or other loose material used for packing purposes shall be kept in rooms or bins enclosed by fire-resistive partitions. Such rooms shall be equipped with automatic sprinklers and all openings shall be covered with approved self-closing hinged fire doors.

Section 1043. In buildings of class VIb hereafter erected receptacles constructed of approved fire-resistive materials shall be provided throughout the building for the reception of waste material and rubbish, and no waste material or rubbish shall be kept in any other place.

Section 1044. In buildings of class VIb hereafter erected kitchens and bakeries shall be separated from the other parts of the building by fire-resistive partitions, and all openings thereto shall be covered with approved self-closing hinged fire doors or double swinging fire doors constructed of approved fire-resistive materials.

Section 1045. (a) In buildings of class VIb hereafter erected all exits shall be plainly marked by signs with letters not less than six (6) inches high, and where deemed necessary by the State Building Commissioner or Chief Building Inspector illuminated signs will be required.

(b) When deemed necessary by the State Building Commissioner or Chief Building Inspector illuminated index signs will be required at the end of main passageways indicating the way to the nearest exit.



Section 1046. In buildings of class VIb hereafter erected differences in floor levels shall be overcome by inclines having of not more than one (1) foot in ten (10) feet. Such inclines have a floor covering of non-slipping material.

Section 1047. (a) In buildings of class VIb hereafter erected gas may be used for lighting purposes, and in such buildings more than one (1) story in height kerosene may be used; provided that, the lights are placed at least eighteen (18) inches distant from any combustible material.

(b) All such lights shall be protected by wire safety cages and shall be set in immovable brackets.

Section 1048. (a) In buildings of class VIb hereafter erected three (3) stories or more in height, there shall be at least one standpipe with fire hose attached constructed as required by the local fire department with outlets on every floor placed at or near the stairways. There shall be a sufficient number of such standpipes and fire hose to reach every part of every floor of such building.

(b) There shall be at least two (2) two and one-half ( $2\frac{1}{2}$ ) gallon hand chemical fire extinguishers placed near each outlet on every floor.

(c) Where the public water supply will not produce a pressure of thirty (30) pounds at the nozzle of the branch pipe, a tank shall be installed with a capacity subject to the approval of the Local or State Fire Marshal. The pipe leading from such tank shall have a check valve so placed as to prevent water from being forced back into the tank. All standpipes shall be connected to the street where such pipe shall be provided with standard Fire Department hose couplings and self-closing valves.

(d) Every standpipe shall be provided at each floor with a pressure gauge.

Section 1049. (a) In buildings of class VIb hereafter erected steam boilers used for supplying heat and power for the building in which they are situated shall not be located under an elevator stairway, passageway, common hall or exit. General power plants other than low pressure heating plants which are used for supplying power for buildings other than the one (1) in which they are located are prohibited within the main walls of the building.

(b) In such buildings no cast iron steam boiler shall be operated at a pressure in excess of ten (10) pounds.

(c) Furnaces and boilers within the building, together with breeching, fuel room and firing room shall be enclosed in rooms having walls and ceilings constructed of approved fire-resistive material and all openings into the same shall be covered with approved self-closing hinged fire doors.

(d) Floor registers are prohibited in all such buildings, and where such buildings are more than one (1) story in height direct hot air furnaces are prohibited.

Section 1050. (a) In buildings of class VIb hereafter erected more than two (2) stories in height there shall be at least one (1) general toilet room for men and one (1) general toilet room for women. There shall be at least one (1) drinking fountain on every floor.

(b) Additional toilet rooms shall be installed where deemed necessary by the State Building Commissioner or Chief Building Inspector or the Local Board of Health or State Department of Health.

Section 1051. In buildings of class VIb hereafter erected an approved ventilating system shall be installed when deemed necessary by the State Building Commissioner or Chief Building Inspector or by the Local Board of Health or State Department of Health.

Special Requirements for Buildings of Class VIb Prior Erected.—  
Stores and Mercantile Establishments.

Section 1051½. In class VI shall be included:

- (a) Office Buildings.
- (b) Stores and Mercantile Establishments.
- (c) Garages and stables.

Section 1052. (a) The following special requirements for buildings of class VIb prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 1053. (a) Buildings of class VIb prior erected more than five (5) stories in height shall be of fire-resistive construction.

(b) Any such building more than three (3) stories in height in which more than ten (10) employees are employed above the first story shall be subject to such safe guards and requirements in addition to those required by this act as the State Building Commissioner or Chief Building Inspector may deem necessary.

(c) No such building of frame construction in which there are more than ten (10) employees employed above the first story may be more than two (2) stories in height.

Section 1054. (a) Buildings of class VIb prior erected shall be designed and constructed so that the floors in every case shall safely sustain any live load that may be set upon them, and in no case shall be less than one hundred (100) pounds per square foot.



(b) It shall be the duty of the State Building Commissioner or Chief Building Inspector to make such examinations as may be necessary to determine the safe allowable live load, and it shall be the duty of the owner, agent or occupant in charge or possession to post and maintain a placard in a conspicuous place stating the maximum live load per square foot. It shall be unlawful for any one to load any floor or portion thereof in excess of this maximum load. All such placards shall be verified and approved by the State Building Commissioner or Chief Building Inspector before being posted.

(c) The stairs, stairways and fire escapes of such buildings shall be designed and constructed to safely sustain a live load of one hundred and fifty (150) pounds per square foot of treads and landings.

Section 1055. (a) Buildings of class VIb prior erected which are so built as to form a part of another building shall be separated from such building or part thereof by fire walls, or by walls which are protected with a lining of at least one (1) thickness of brick, or equivalent material, or by walls protected with approved metal lath and approved fire-resistive plaster, subject to the approval of the State Building Commissioner or Chief Building Inspector. Exit openings in such fire walls not more than five (5) feet in width will be permitted; provided that, they are equipped with approved self-closing, hinged fire doors. Such fire doors shall not be blocked open or latched back at any time.

Section 1056. (a) In buildings of class VIb prior erected there shall be an unobstructed passageway leading to the street from all inner courts and every lot line court where they are enclosed by other buildings.

(b) Where walls which contain windows are nearer than sixteen (16) feet to any other building, structure or lot line, all windows therein shall be covered with wired glass not less than one-quarter (¼) inch thick set in metal frames, if, in the opinion of the Local or State Fire Marshal the same shall be necessary. Such windows shall be equipped with metal shutters easily closed or opened from the outside or other approved fire shutters wherever in the opinion of the Local or State Fire Marshal the same shall be necessary.

Section 1057. (a) Buildings of class VIb prior erected shall have at least one (1) main exit on every street on which it abuts, and such other main exits as shall be deemed necessary by the State Building Commissioner or Chief Building Inspector.

(b) All such main exits shall have at least one (1) door not less than five (5) feet wide opening outwards. Revolving doors will be permitted; provided that, there is at least one (1) hinged door opening outward for every such revolving door adjacent thereto.

(c) In all interior rooms of such buildings where ten (10) or more persons are employed the doors of such rooms shall open outward, and such doors shall be not less than five (5) feet wide.

Section 1058. (a) Buildings of class VIb prior erected shall have at least two (2) stairways between each floor, and shall have such additional stairways as shall be deemed necessary by the State Building Commissioner or Chief Building Inspector.

(b) In such buildings more than two (2) stories in height all stairways shall be enclosed throughout by walls built of approved fire-resistive materials. At floor landings the top of one (1) flight of stairs shall be not more than twenty-five (25) feet away from the bottom of the next flight of stairs, and the floor space between such flights shall be completely enclosed by partitions constructed of approved fire-resistive materials. Entrance to such enclosed space shall be had by means of vestibules.

(c) Risers shall be not more than eight (8) inches high and treads not less than nine (9) inches wide, and no stairway shall be less than four (4) feet in width.

(d) At every floor landing the bottom of all such stairways shall have immediate and unobstructed access to a main passageway.

(e) There shall be at least two (2) stairways constructed as required in this section leading to every basement and cellar, and such additional means of egress therefrom as may be deemed necessary by the State building commissioner or Chief Building Inspector.

(f) All stairways leading to basements and cellars shall be closed at both the top and bottom by approved fire doors, and where such stairways are used or intended or designed to be used by customers entrance to both the top and bottom of such stairways shall be by means of vestibules.

(g) Where the cost of making changes in such buildings in order to comply with the provisions of this section will be prohibitive, and where the practical benefits intended to be secured by the application of this section can be obtained without complying with the strict letter of this Section, the State Building Commissioner or Chief Building Inspector may, in his discretion, permit such deviations from the requirements of this section as may seem to be just and reasonable; provided that, in every such case a record in writing is made of such deviations, together with the reasons therefor, and shall be kept on file for public inspection.

Section 1059. In buildings of class VIb prior erected there shall be at least one (1) main passageway on each floor giving unobstructed access to stairways. Such main passageway shall be at least five (5) feet in width, and shall have parallel sides. Main



passageways shall not be obstructed in any manner whatever, and on the ground floor shall lead directly to a main exit.

Section 1060. In buildings of class VIb prior erected all vertical openings between floors shall be enclosed by fire-resistive partitions, and all openings in such partitions shall be covered by approved self-closing hinged fire doors. Openings for light in such partitions will be permitted provided they are covered with windows of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in fixed metal sash.

Section 1061. (a) In buildings of class VIb prior erected more than two (2) stories in height automatic sprinklers shall be installed in the basement, or in the cellar where there is no basement, and in the remaining stories of the building when such building is devoted principally for the sale of dry goods or other combustible materials.

(b) In such buildings not more than two (2) stories in height devoted principally for the sale of dry goods and other easily combustible material, and where combustible material is stored in the cellar or basement, automatic sprinklers shall be installed when deemed necessary by the Local or State Fire Marshal.

Section 1062. Buildings of class VIb prior erected that do not have automatic sprinklers installed on every floor shall have floor areas subdivided by fire-resistive partitions when deemed necessary by the State Building Commissioner or Chief Building Inspector.

Section 1063. In buildings of class VIb prior erected all excelsior, paper, clippings or other loose material used for packing purposes shall be kept in rooms or bins enclosed by fire-resistive partitions. Such rooms shall be equipped with automatic sprinklers and all openings shall be covered with approved self-closing hinged fire doors.

Section 1064. In buildings of class VIb prior erected receptacles constructed of approved fire-resistive materials shall be provided throughout the building for the reception of waste material and rubbish, and no waste material or rubbish shall be kept in any other place.

Section 1065. In buildings of class VIb prior erected kitchens and bakeries shall be separated from the other parts of the building by fire-resistive partitions, and all openings thereto shall be covered with approved self-closing hinged fire doors or double swinging fire doors constructed of approved fire-resistive materials.

Section 1066. (a) In buildings of class VIb prior erected all exits shall be plainly marked by signs with letters not less than six (6) inches high, and where deemed necessary by the State Building

Commissioner or Chief Building Inspector illuminated signs will be required.

(b) When deemed necessary by the State Building Commissioner or Chief Building Inspector illuminated index signs will be required at the end of main passageways indicating the way to the nearest exit.

Section 1067. In buildings of class VIb prior erected all differences in floor levels shall be overcome by inclines having a rise of not more than one (1) foot in ten (10) feet. Such inclines shall have a floor covering of non-slipping material.

Section 1068. (a) In buildings of class VIb prior erected gas may be used for lighting purposes and in such buildings not more than one (1) story in height kerosene may be used; provided that, the lights are placed at least eighteen (18) inches distant from any combustible material.

(b) All such lights shall be protected by wire safety cages, and shall be set in immovable brackets.

Section 1069. (a) In buildings of class VIb prior erected, three (3) stories or more in height, there shall be at least one (1) standpipe with fire hose attached, constructed as required by this act with outlets on every floor placed at or near the stairways. There shall be a sufficient number of such standpipes and fire hose to reach every part of every floor of such building.

(b) There shall be at least two (2) two and one-half (2½) gallon hand chemical fire extinguishers placed near each outlet on every floor.

(c) Where the public water supply will not produce a pressure of thirty (30) pounds at the nozzle of the branch pipe, a water tank shall be installed with a capacity subject to the approval of the Local or State Fire Marshal. The pipe leading from such tank shall have a check valve so placed as to prevent water from being forced back into the tank. All standpipes shall be connected to a pipe leading to the street where such pipe shall be provided with standard Fire Department hose couplings and self-closing valves.

(d) Every standpipe shall be placed at each floor with a water gauge.

Section 1070. (a) In buildings of class VIb prior erected steam boilers used for supplying heat and power for the building in which they are situated shall not be located under an elevator, stairway, passageway, common hall or exit. General power plants other than low pressure heating plants which are used for supplying power for buildings other than the one (1) in which they are located are prohibited within the main walls of the building.



(b) In such buildings no cast iron steam boiler shall be operated at a pressure in excess of ten (10) pounds.

(c) Furnaces and boilers within the building together with the breeching, fuel room and firing room shall be enclosed in rooms having walls and ceilings constructed of approved fire-resistive materials, and all openings into the same shall be covered with approved self-closing hinged fire doors.

(d) Where buildings of this class do not conform to the requirements of this section and where it is impossible or impracticable to make necessary alterations to bring such building into conformity with the requirements of this section, the State Building Commissioner or Chief Building Inspector may, in his discretion, permit reasonable deviations from the requirements of this section; provided that, the same are put in writing and placed on file for public inspection; and provided further that, general power plants, other than low pressure heating plants which are used for supplying power for buildings other than the one in which they are located, will not be permitted.

Section 1071. (a) In buildings of class VIb prior erected more than two (2) stories in height there shall be at least one (1) general toilet room for men and one (1) general toilet room for women. There shall be at least one (1) drinking fountain on every floor.

(b) Additional toilet rooms shall be installed where deemed necessary by the State Building Commissioner or Chief Building Inspector or the Local Board of Health or State Department of Health.

Section 1072. In buildings of class VIb prior erected an approved ventilating system shall be installed when deemed necessary by the State Building Commissioner or Chief Building Inspector or by the Local Board of Health or State Department of Health.

Special Requirements for Buildings of Class VIc Hereafter Erected.—  
—Garages and Stables.

Section 1073. In class VI shall be included:

- (a) Office Buildings.
- (b) Stores and Mercantile Establishments.
- (c) Garages and Stables.

Section 1074. (a) The following special requirements for buildings of class VIc hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 1075. In buildings of class VIc hereafter erected that are used as public garages the floors shall be capable of safely sustaining any live load that may be set upon them, and shall in no case be less than two hundred (200) pounds per square foot.

Section 1076. (a) Buildings of class VIc hereafter erected used as public garages shall be independent of any other building or separated therefrom by an unpierced fire wall, and shall be of fire-resistive construction.

(b) No building of class VIc hereafter erected shall be used as an Assembly Hall nor be used for living or sleeping purposes except for the janitor or the caretaker, and no part of such building shall be used for any purpose where women are employed nor any for other purpose where any employees are employed above the second floor.

Section 1077. In buildings of class VIc hereafter erected in both public and private garages gasoline shall be stored under ground subject to the approval of the State Building Commissioner or Chief Building Inspector, and also to the approval of the Local or State Fire Marshal.

Section 1078. (a) Buildings of class VIc hereafter erected of frame construction and not more than one (1) story in height may be used for stables subject to the approval of the Local or State Fire Marshal.

(b) All such buildings two (2) stories or more in height shall be of fire-resistive construction, and there shall be no openings between stories inside of the building unless they are enclosed by fire-resistive partitions and covered by approved self-closing hinged fire doors.

(c) The lower end of all runways from upper stories shall have an exit opening not more than twenty-five (25) feet from one (1) of the main exits of the building.

(d) Such buildings shall have a floor built of cement or concrete and with adequate drainage to the public sewer where there is a public sewer. If there is no public sewer such drainage will be required as shall be deemed necessary by the Local Board of Health or State Department of Health.

(e) No public stable shall be constructed on any street where one-half ( $\frac{1}{2}$ ) of the buildings on both sides of the street between the next nearest intersecting streets are used exclusively for residential purposes.

(f) In such buildings horses or other animals shall be not kept in the cellar and all manure shall be kept in sealed manure pits and removed daily.



Section 1079. (a) In buildings of class VIc hereafter erected used as stables in which accommodation is provided for ten (10) or more horses there shall be at least one (1) two and one-half (2½) gallon hand chemical fire extinguisher for every ten (10) horses for which accommodation is provided, and for all such buildings more than two (2) stories in height there shall be at least one (1) standpipe with fire hose constructed as required by this act, and as many additional standpipes as may be necessary to reach every part of every floor.

(b) In such buildings all walls, openings, floors and dead spaces shall be so protected as to prevent the harboring and breeding of rats, when deemed necessary by the State Building Commissioner or Chief Building Inspector, the Local or State Fire Marshal or the Local Board of Health or State Department of Health.

(c) All parts of such buildings shall be ventilated by an adequate number of windows opening directly to the outer air, or an approved ventilating system shall be installed when deemed necessary by the State Building Commissioner or Chief Building Inspector or by the Local Board of Health or State Department of Health.

Section 1080. (a) In buildings of class VIc hereafter erected used as stables where a heating plant or heating apparatus is installed such apparatus shall be located in a room constructed of walls built of approved fire-resistive materials, and all openings in such walls shall be covered with approved self-closing hinged fire doors.

(b) At least one (1) means of exit from such building for the use of the horses or other animals kept therein shall be an incline with a rise of not more than one (1) foot in ten (10) feet.

(c) Hot air furnaces are prohibited in such buildings.

#### Special Requirements for Buildings of Class VIc Prior Erected— Garages and Stables.

Section 1081. In class VI shall be included:

- (a) Office Buildings.
- (b) Stores and Mercantile Establishments.
- (c) Garages and Stables.

Section 1082. (a) The following special requirements for buildings of class VIc prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 1083. In buildings of class VIc prior erected that are used as public garages the floors shall be capable of safely sustain-

any live load that may be set upon them, and shall in no case be more than two hundred (200) pounds per square foot.

Section 1084. (a) Buildings of class VIc prior erected used as public garages which are joined to or a part of another building used for any other purpose shall be separated from such building by an unperforated fire wall.

(b) No building of class VIc hereafter erected shall be used as an assembly Hall nor be used for living or sleeping purposes except for the janitor or the caretaker, and no part of such building shall be used for any purpose where women are employed nor for any other purpose where any employees are employed above the second floor.

Section 1085. In buildings of class VIc prior erected in both public and private garages gasoline shall be stored under ground subject to the approval of the State Building Commissioner or Chief Building Inspector, and also to the approval of the Local or State Fire Marshal.

Section 1086. (a) Buildings of class VIc prior erected of frame construction and not more than one (1) story in height may be used as stables subject to the approval of the Local or State Fire Marshal.

(b) All such buildings two (2) stories or more in height shall be of fire-resistive construction, and there shall be no openings between stories inside of the building unless they are enclosed by fire-resistive partitions and covered by approved self-covering hinged fire doors.

(c) The lower end of all runways from upper stories shall have an exit opening not more than twenty-five (25) feet from one (1) of the main exits of the building.

(d) Such buildings shall have a floor built of cement or concrete with adequate drainage to the public sewer where there is a public sewer. If there is no public sewer such drainage will be required as shall be deemed necessary by the Local Board of Health or State Department of Health.

(e) No public stables shall be constructed on any street where less than half ( $\frac{1}{2}$ ) of the buildings on both sides of the street between the nearest intersecting streets are used exclusively for residential purposes.

(f) In such buildings horses or other animals shall not be kept in the cellar and all manure shall be kept in sealed manure pits and removed daily.

Section 1087. (a) In buildings of class VIc prior erected used as stables in which accommodation is provided for ten (10) or more



horses there shall be at least one (1) two and one-half (2½) gallon hand chemical fire extinguisher for every ten (10) horses for which accommodation is provided, and for all such buildings more than two (2) stories in height there shall be at least one (1) standpipe with fire hose constructed as required by this act, and as many additional standpipes as may be necessary to reach every part of every floor.

(b) In such buildings all walls, openings, floors and dead spaces shall be so protected as to prevent the harboring and breeding of rats, when deemed necessary by the State Building Commissioner or Chief Building Inspector, the Local or State Fire Marshal or the Local Board of Health or State Department of Health.

(c) All parts of such buildings shall be ventilated by an adequate number of windows opening directly to the outer air, or an approved ventilating system shall be installed when deemed necessary by the State Building Commissioner or Chief Building Inspector or by the Local Board of Health or State Department of Health.

Section 1088. (a) In buildings of class VIc prior erected used as public stables where a heating plant or heating apparatus is installed such apparatus shall be located in a room constructed of walls built of approved fire-resistive materials, and all openings in such walls shall be covered with approved self-closing hinged fire doors.

(b) At least one (1) means of exit from such building for the use of the horses or other animals kept therein shall be an incline with a rise of not more than one (1) foot in ten (10) feet.

(c) Hot air furnaces are prohibited in such buildings.

(d) Small heating stoves may be used for heating office rooms; provided that, the room in which they are located is protected on all sides by metal sheeting or some other approved fire-resistive material.

### ARTICLE XIII.

#### Special Requirements for Buildings of Class VII Hereafter Erected —Restaurants, Cafes and Eating Houses.

Section 1089. In class VII shall be included restaurants, cafes and eating houses.

Section 1090. (a) The following special requirements for buildings of class VII hereafter erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 1091. No building of class VII hereafter erected shall be used for any of the purposes of this class without the approval of the Local Board of Health or State Department of Health, and no permit shall be issued for any such building until the certificate of the Local Board of Health or State Department of Health certifying that such building complies with the requirements of this act pertaining to health and sanitation shall be first had and obtained.

Section 1092. No building of class VII hereafter erected shall be permitted in the cellar, and no part of any building hereafter erected below the basement shall be used for any of the purposes of this class.

Section 1093. All rooms in any building of class VII hereafter erected, used for cooking, shall be separated from every other part of such building by fire walls. Openings for doors in such walls will be permitted; provided that, they are covered with approved self-closing hinged fire doors.

Section 1094. All buildings of class VII hereafter erected shall be provided with an approved ventilating system which will change the air at least six (6) times per hour in all rooms used for eating and cooking. In seasons when artificial heat is not necessary such ventilation may be effected by windows only in rooms in the first story or above.

Section 1095. (a) Buildings of class VII hereafter erected in which accommodation is provided for women shall be provided with ample toilet accommodation.

(b) Rooms containing water-closets and lavatories shall be kept in a clean and sanitary condition at all times.

Section 1096. In buildings of class VII hereafter erected water-closets and lavatories shall be provided for all employees, there being a separate toilet room for men and a separate toilet room for women.

Section 1097. In buildings of class VII hereafter erected all edibles shall be kept in a clean and wholesome manner, and no toilet room shall open directly into any room where edibles are kept or stored.

Section 1098. In buildings of class VII hereafter erected all stoves and cooking apparatus shall be subject to the approval of the State Building Commissioner or Chief Building Inspector.



### ARTICLE XIII.

#### Special Requirements for Buildings of Class VII Prior Erected.— Restaurants, Cafes and Eating Houses.

Section 1099. In class VII shall be included restaurants, cafes and eating houses.

Section 1100. (a) The following special requirements for buildings of class VII prior erected shall not be construed as exclusive of any of the other provisions of this act.

(b) In cases of direct conflict with any of the other provisions of this act these requirements shall govern.

Section 1101. No building of class VII prior erected shall be used for any of the purposes of this class without the approval of the Local Board of Health or State Department of Health, and no permit shall be issued for any such building until the certificate of the Local Board of Health or State Department of Health certifying that such building complies with the requirements of this act pertaining to health and sanitation shall be first had and obtained.

Section 1102. No buildings of class VII prior erected shall be permitted in the cellar, and no part of any building prior erected below the basement shall be used for any of the purposes of this class.

Section 1103. All rooms in any building of class VII prior erected, used for cooking, shall be separated from every other part of such building by fire walls. Openings for doors in such walls will be permitted; provided that, they are covered with approved self-closing hinged fire doors.

Section 1104. All buildings of class VII prior erected shall be provided with an approved ventilating system which will change the air at least six (6) times per hour in all rooms used for eating and cooking. In seasons when artificial heat is not necessary such ventilation may be effected by windows only in rooms in the first story or above.

Section 1105. (a) Buildings of class VII prior erected in which accommodation is provided for women shall be provided with ample toilet accommodation for women.

(b) Rooms containing water-closets and lavatories shall be kept in a clean and sanitary condition at all times.

Section 1106. In buildings of class VII prior erected water-closets and lavatories shall be provided for all employes, there being a separate toilet room for men employes and a separate toilet room for women employes.

Section 1107. In buildings of class VII prior erected all edibles shall be kept in a clean and wholesome manner, and no toilet room shall open directly into any room where edibles are kept or stored.

Section 1108. In buildings of class VII prior erected all stoves and cooking apparatus shall be subject to the approval of the State Building Commissioner or Chief Building Inspector.

#### ARTICLE XIV.

##### Special Requirements for Iron and Steel Construction of Buildings and Structures Hereafter Erected.

Section 1109. Iron and steel may be used in the construction of buildings or structures hereafter erected; provided that, all the provisions of this act are strictly complied with.

Section 1110. The State Building Commissioner or Chief Building Inspector may, in his discretion, require an inspection free of cost to the State Building Department or the Local Bureau of Building Inspection, as the case may be, of the manufacture, fabrication and erection of the iron and steel entering into any building or structure. Such inspection shall be made by reputable, competent and disinterested inspectors; and the proper pieces to be tested, suitable machines for testing the specimens, and all facilities for ascertaining the weight, quality and workmanship of materials shall be provided at the expense of the applicant for the permit. In addition the State Building Commissioner or Chief Building Inspector shall have free access to all parts of the works where the materials for such building or structure are being actually manufactured and fabricated.

Section 1111. All material or materials subsequent to tests and acceptance at the place of manufacture which develop weak spots, brittleness, cracks or other injurious defects shall be rejected at the place of manufacture and fabrication and shall be replaced.

Section 1112. Rivet steel and steel castings shall be made by the open hearth process. Structural steel may be made either by the open hearth or by the Bessemer process. Wrought iron shall be made wholly from puddled iron and may consist either of new muck bar iron or of a mixture of muck bar iron and scrap. Iron castings shall be made of tough gray iron.



Section 1113. Iron and steel used in the construction of buildings and structures hereafter erected shall have the following chemical and physical properties:

Elements Considered.	Structural Steel.	Rivet steel.	Cast steel.	Wrought iron.	Cast iron.
Phosphorus Maximum, %					
Basic open hearth, .....	0.06	0.04	0.05		
Acid open hearth, .....	0.08	0.04	0.08		
Bessemer, .....	0.10				
Sulphur, Max. %, .....		0.045	0.05		0.10
Tensile strength, .....	55/65,000	46/56,000	65,000	45,000	
Lbs. per sq. in., .....			min.	min.	
Yield point, min., .....	0.5	0.5		25,000	
Lbs. Per. sq. in., .....	tens. Str. with min. of 30,000	tens. Str.			
Elongation, min. %, .....	1,400,000	1,400,000		18	
in 6 in. Fig. 1, .....	tens. str.	tens. str.			
Elongation, min. % in 2 in. Fig. 2, .....	22		18		

Section 1114. The yield point shall be determined by the drop of the beam of the testing machine.

Section 1115. To determine whether the steel conforms to the chemical requirements specified, an analysis shall be made from a test ingot taken during the pouring of each melt. A copy of this analysis shall be furnished the State Building Commissioner or Chief Building Inspector.

Section 1116. Structural steel may have tensile strength up to seventy thousand (70,000) pounds per square inch maximum, provided the elongation is not less than the percentage required for sixty-five thousand (65,000) pounds per square inch tensile strength.

Section 1117. For material over three-quarters ( $\frac{3}{4}$ ) inch in thickness, a deduction of one (1) from the percentage of elongation on eight (8) inches specified for structural steel may be made for each increase of one-eighth ( $\frac{1}{8}$ ) inch in thickness above three-quarters ( $\frac{3}{4}$ ) inch to a minimum of eighteen (18) per cent; and, for materials under five-sixteenth ( $\frac{5}{16}$ ) inch in thickness, a deduction of two and five-tenths (2.5) from the percentage of elongation in eight (8) inch specified for structural steel may be made for each decrease of one-sixteenth ( $\frac{1}{16}$ ) inch in thickness below five-sixteenths ( $\frac{5}{16}$ ) inch.

Section 1118. All broken tension test specimens of rolled or forged steel shall show a silky fracture. Specimens of wrought iron when nicked and bent shall show a fracture at least ninety (90) per cent. fibrous.

Section 1119. (a) The test specimens for plates, shapes and rolled steel shall bend cold through one hundred and eighty degrees without fracture on the outside of the bent portion, for material three-quarters ( $\frac{3}{4}$ ) inch and under in thickness on itself; for material over three-quarters ( $\frac{3}{4}$ ) inch and one-quarter ( $1\frac{1}{4}$ ) inches in thickness; around a pin whose diameter is equal to one and one-half ( $1\frac{1}{2}$ ) times the thickness of the specimen; and for material over one and one-quarter ( $1\frac{1}{4}$ ) inches in thickness around a pin whose diameter is equal to twice the thickness of the specimen.

(b) The test specimens for pins and rollers of rolled or forged steel shall bend cold through one hundred and eighty (180) degrees, around a pin whose diameter is one (1) inch, without fracture on the outside of the bent portion.

(c) A rivet rod of rolled steel shall bend cold through one hundred and eighty (180) degrees flat on itself, without fracture on the outside of the bent portion.

(d) Wrought iron shall bend cold through one hundred and eighty (180) degrees, without fracture on the outside of the bent portion, around a pin whose diameter is equal to the diameter of the piece tested for round bars under two (2) square inches in section; and around a pin whose diameter is twice the diameter or thickness of the piece tested for round bars two (2) square inches or over in section and for all flat bars.

Section 1120. (a) Tension and bend test specimens of rolled or forged steel shall be taken from the finished product, and shall not be annealed or otherwise treated, except as specified for "Annealed specimens."

(b) Tension and bend test specimens for plates, shapes, and bars of rolled or forged steel, except as specified in the next paragraph shall be of the full thickness of the material as rolled, and with both edges milled to the form and dimensions shown in Fig. 1, or may have both edges parallel.

(c) Tension and bend test specimens for plates and bars (except eyebar flats) over one and one-half ( $1\frac{1}{2}$ ) inches in thickness or diameter may be turned or planed to a diameter or thickness of at least three-quarters ( $\frac{3}{4}$ ) inch for a length of at least nine (9) inches.

(d) Tension and bend test specimens of rolled and forged steel pins and rollers shall be taken parallel to the axis, one (1) inch from the surface of the bar. Tension test specimens shall be of the form and dimensions shown in Fig. 2. Bend test specimens shall be one (1) inch by one-half ( $\frac{1}{2}$ ) inch in section.

(e) Wrought iron shall be tested in specimens of the form and dimensions shown in Fig. 1, or in full size pieces of the same gauged length.



Section 1121. Steel rivet rods shall be tested in full size section as rolled. Test specimens for rolled or forged steel which is to be annealed or otherwise treated before use shall be cut from properly annealed or similarly treated short lengths of the full size section of the piece.

Section 1122. (a) At least one (1) tension and one (1) bend test shall be made from each melt of steel and from each lot of ten thousand (10,000) pounds or less of wrought iron. If steel from one (1) melt differs three-eighths ( $\frac{3}{8}$ ) inch or more in thickness test shall be made from both the thickest and the thinnest material rolled.

(b) If any test specimen develops flaws, or if an eight (8) inch tension test specimen breaks outside the middle third of the gauge length, or if a two (2) inch tension test specimen breaks outside the gauge length, it shall be discarded and another specimen substituted therefor.

Section 1123. The number of tests for steel castings shall depend on the character and importance of the castings. Specimens shall be cut cold from coupons molded or cast on some portion of one (1) or more castings from each melt or from the sink heads if the sink heads so used shall be annealed with the casting before it is cut off. Test specimens shall be of the form and dimensions shown in Fig. 2.

Section 1124. Tests for iron castings shall be made on the "Arbitration Bar" of the American Society for Testing Materials, which is a round bar one and one-quarter ( $1\frac{1}{4}$ ) inch in diameter and fifteen (15) inches long. Two (2) sets of such bars two (2) each to be cast from each heat, one (1) set from the first and the other set from the last iron going into the castings. A transverse test shall be made on a supported length of twelve (12) inches with load applied in the middle. The minimum breaking load so applied shall be two thousand nine hundred (2,900) pounds with a deflection of at least one-tenth (1-10) inch before rupture.

Section 1125. (a) Finished iron and steel shall be free from flaws and defects and shall have a workmanlike finish.

(b) Wrought iron shall be free from any admixture of steel and shall be thoroughly welded in rolling.

(c) Castings shall be true to pattern, out of wind and free from excessive shrinkage. Castings such as columns whose cores shrink more than twenty (20) per cent. of the thickness of the shell shall be rejected.

(d) All castings which cannot be measured otherwise shall be drilled with holes not over three-eighths ( $\frac{3}{8}$ ) inch in diameter for the purpose of determining the thickness.

Section 1126. The sectional area or weight of each structural shape or rolled edged plate shall not vary more than two and five-tenths (2.5) per cent. from theoretical or specified amounts.

Section 1127. The thickness or weight of each sheared plate shall conform to the schedule of permissible variations, Manufacturers' Standard practice, filed with the State Building Commissioner or Chief Building Inspector.

Section 1128. The weights of angles, tees, zeos and channels of bar sizes and the dimensions of rounds, squares, hexagons and flats shall conform to Manufacturers' Standard practice governing the allowable variations in size and weight of hot rolled bars.

Section 1129. The name of the manufacturer and the melt number shall be legibly marked, stamped or rolled upon all finished rolled or forged steel, except that each pin or roller shall be stamped on the end. Rivet and lattice bars and other small pieces of steel may be shipped in securely fastened bundles with the above marks legibly stamped on attached metal tags. Test specimens of steel shall have their melt numbers plainly marked or stamped.

Section 1130. (a) For the purpose of calculating the total load to be carried on columns of buildings and structures of more than five (5) stories in height, the live load for the roof and topmost story shall be calculated in full, but for the lower stories, a reduction of the live load will be permitted as follows: For the story next below the topmost story a reduction of five (5) per cent. of the calculated live load will be allowed; for the next story below ten (10) per cent.; and so on by increments of five (5) per cent. per story till the reduction amounts to fifty (50) per cent. when it shall be taken at fifty (50) per cent. for all floors below. The aforesaid reductions shall not be allowed in the case of buildings and structures upon which a live load of more than one hundred and fifty (150) pounds per square foot has been assumed.

(b) No reduction in live loads shall be allowed in computing trimmer and floor beams.

(c) A reduction of fifteen (15) per cent. of the live load will be allowed in figuring the main or girder beams, except in buildings and structures for which a live load of more than one hundred and fifty (150) pounds per square foot is assumed.

(d) In the case of concentrated or special loads, the calculations shall be based on the maximum effect of the loading.

(e) For structures carrying machinery such as cranes, conveyors, printing presses, etc., twenty-five (25) per cent. shall be added to the stresses from such live loads to provide for the effects of impact and vibrations.



test shows that, based on specifications submitted, the construction has a factor of safety of four (4) on total dead load and live load and otherwise meets with the approval of the State Building Commissioner or Chief Building Inspector, the said system of reinforced concrete may be used in accordance with the said plans and specifications.

Section 1165. The State Building Commissioner or Chief Building Inspector shall have the right to order a loading test to be made at the expense of the owner on any reinforced concrete structure or part thereof at such time and in such manner as will satisfactorily demonstrate that the unit strains in any materials do not exceed those permitted in this act, and that the same is capable of bearing a live load equivalent to fully twice that for which it was designed, without causing permanent deformations. No such test on the structure shall be required, however, until thirty (30) days after the forms have been removed on portions to be tested, and notice in writing of the requiring of such test has been given by said State Building Commissioner or Chief Building Inspector to the person who has taken out the permit.

Section 1166. The properties of materials used in concrete and reinforced concrete shall be equal to or exceed in value the requirements of this act.

Section 1167. All cement used in reinforced concrete construction, shall be portland cement and shall conform to the requirements herein specified.

Section 1168. (a) All cement described under the term Portland cement shall have a specific gravity of not less than three and ten-one hundredths (3.10); and should the test of cement as received fall below this requirement, a second test may be made upon a sample ignited at a low red heat. The loss in weight of the ignited cement shall not exceed four (4) per centum.

(b) It is further required that said cement shall leave by weight a residue of not more than eight (8) per centum on a sieve of one hundred (100) meshes to the lineal inch, and not more than twenty-five (25) per centum on a sieve with two hundred (200) meshes to the lineal inch.

(c) And further, it shall not develop an initial set in less than thirty (30) minutes, and must develop a hard set in not less than one (1) hour nor more than ten (10) hours.

(d) The minimum requirements for tensile strength for briquettes one (1) square inch in cross section shall be as follows; and the cement shall show no retrogression in strength within the periods specified.

### Neat Cement.

Age.	Strength.
Twenty-four (24) hours in moist air, .....	175 lbs.
Seven (7) days—one day in moist air, six (6) days in water), .....	500 lbs.
Twenty-eight (28) days—one (1) day in moist air, twenty-seven (27) days in water), .....	600 lbs.

### One (1) Part Cement, Three (3) Parts Standard Ottawa Sand.

Age.	Strength.
Seven (7) days—one (1) day in moist air, six (6) days in water), .....	200 lbs.
Twenty-eight (28) days—one (1) days in moist air, twenty-seven (27) days in water), .....	275 lbs.

(e) Pats of neat cement about three (3) inches in diameter, one-half ( $\frac{1}{2}$ ) inch thick at the center and tapering to a thin edge, shall be kept in moist air for a period of twenty-four (24) hours. A pat is then kept in air at normal temperature and observed at intervals for at least twenty-eight (28) days. Another pat is kept in water maintained as near seventy (70) degrees Fahrenheit as practicable and observed at intervals for at least twenty-eight (28) days. A third pat is exposed in any convenient way in an atmosphere of steam above boiling water in a loosely closed vessel for five (5) hours. These pats, to satisfactorily pass the requirements, shall remain firm and hard and show no signs of distortion, checking, cracking, or distintegrating.

(f) The cement shall not contain more than one and seventy-five hundredth (1.75) per cent. of anhydrous sulphuric acid (SO) nor more than four (4) per cent. of magnesia (MgO).

(g) Certificates that the cement used has been tested by a reputable, competent and disinterested inspector, and showing the results of said tests, and that the cement has met the requirements of this section, and that the tests have been made in accordance with the standard methods presented in documents issued by the American Society of Civil Engineers, January 15, 1913, with all subsequent amendments thereto (copies of which documents are required to be kept on file in the office of the State Building Commissioner or Chief Building Inspector for public inspection), shall be furnished by the architect or engineer in charge of the work to the State Building Commissioner or Chief Building Inspector. The State Building Commissioner or Chief Building Inspector shall have authority to require the same, if he deems it necessary, before the cement is al-



Section 1157. When cast iron columns and posts are used in buildings, they shall be not less than five (5) inches in diameter or least dimension, with a thickness of metal not less than one-twelfth (1-12) the diameter or least dimension of the column and never less than three-quarters ( $\frac{3}{4}$ ) inch; and they shall have an unsupported length of not more than seventy (70) times their least radius of gyration. They shall be faced at both ends to plane surfaces at right angles to their axes; and when placed vertically, one over another, the diameter of the one below a joint shall be increased until its core is not less than the core of the one above. The core of the column below a joint shall be not greater than the core of the column above for a distance of at least three (3) inches, and shall have forty-five (45) degree taper added. The columns shall be connected at each joint by means of at least four (4) bolts of sufficient length, not less than three-quarters ( $\frac{3}{4}$ ) inch in diameter, through square or rectangular flanges not less than one (1) inch finished thickness, cast on the ends of the columns and well reinforced by brackets and fillets. These flanges shall extend on each side at least two and one-half ( $2\frac{1}{2}$ ) inches beyond the widest part of the column shaft; and, at each joint, the flanges of the base of the column above shall match the flanges of the cap of the column below; and a cast iron plate planed on both sides to a thickness not less than one and one-quarter ( $1\frac{1}{4}$ ) inches, or a rolled steel plate not less than five-eighths ( $\frac{5}{8}$ ) inch thick shall be interposed. The two (2) flanges and the intermediate plate, at each joint, shall be drilled to the same template, and the columns shall be securely bolted together as fast as erected. The bottom columns shall rest on plates or shoes of iron or steel of the proper thickness and dimensions to distribute the loads to the footings.

Section 1158. Rolled-steel sash and ornamental work of iron and steel that is exposed to the weather shall have no section less than one-eighth ( $\frac{1}{8}$ ) inch in thickness or three-thirty seconds (3-32) square inch in least cross section. They shall be so designed and constructed that parts cannot become detached and fall out, and so that all parts may be accessible for painting on all sides. Rolled-steel shall have joints locked rigidly and tightly together to prevent corrosion and leakage, and shall be designed and constructed to prevent their falling out. Rivets and pins for rollers shall be bronze, and sliding sash shall be equipped with proper and substantial slides and guides.

Section 1159. All metal brackets, lookouts and cantilevers supporting bays, balconies, stairs, fire escapes, etc., shall be placed at or as near the floor level as possible; but shall not be secured to a wall one (1) brick thick nor to any wall unless the overturning moment

the engineer or architect. The chemical or physical properties shall have values within the following limits:

### Structural Steel Grade.

	Plain rods.	Deformed rods.	Cold twisted rods.
<b>Phosphorus Maximum:</b>			
Bessemer, .....	.10	.10	.10
Basic, open hearth, .....	.06	.06	.10
Acid, open hearth, .....	.08	.08	.08
Ultimate tensile strength, pounds per square inch, .....	55,000 to 65,000	55,000 to 65,000	Recorded only
Yield point, minimum pounds per square inch, .....	30,000	30,000	55,000
Elongation, per cent. in eight inch minimum, .....	1,400,000	1,250,000	5%
	T. S.	T. S.	
Cold bend without fracture:			
Rods under $\frac{3}{4}$ inch in diameter or thickness, .....	180° d=1t	180° d=1t	180° d=2t
Rods $\frac{3}{4}$ inch in diameter or thickness and over, .....	180° d=1t	180° d=2t	180° d=3t

T. S. equals tensile strength.

d equals inside diameter of bend.

t equals minimum thickness of rod.

(c) Structural steel grade may have tensile strength up to seventy thousand (70,000) pounds per square inch maximum, provided the elongation is not less than the percentage required for sixty-five thousand (65,000) pounds per square inch tensile strength.

(d) Steel wire used for reinforcement shall be cold drawn from open hearth steel of the structural grade hereinbefore given.

(e) Modifications in elongation for rods less than seven-sixteenths (7-16) inch and more than three-quarter ( $\frac{3}{4}$ ) inch nominal diameter or thickness as follows: For each increase of one-eighth ( $\frac{1}{8}$ ) inch in diameter above three-quarters ( $\frac{3}{4}$ ) inch, a deduction of one (1) per cent. shall be made from the specified percentage of elongation; for each decrease of one-sixteenth (1-16) inch in diameter below seven-sixteenths (7-16) inch, a deduction of one (1) per cent. shall be made from the specified percentage of elongation. Modifications in elongation are not applicable to cold twisted rods.

(f) The yield point shall be determined by careful observation of the drop of the beam of the testing machine or by other equally accurate methods, and shall be recorded in the test reports.

(g) Tensile and bend test specimens shall be cut from plain or deformed rods as rolled.

(h) Tensile and bend test specimens of cold twisted rods shall be cut from rods after twisting, and shall be tested in full size without further treatment, unless otherwise specified as in paragraph (i), in which case the conditions therein stipulated shall govern.

(i) If it is desired that the testing and acceptance for cold twisted rods be made upon the hot rolled rods before being twisted, the rods



shall meet the requirements of the structural steel grade for plain rods. All steel shall be tested by a reputable, competent and disinterested inspector. One (1) tensile and one (1) bend test shall be made from each melt of open hearth steel rolled, and from each blow of Bessemer steel rolled. Certified copies of test reports shall be furnished the State Building Commissioner or Chief Building Inspector at his request. In case rods differing three-eighths ( $\frac{3}{8}$ ) inch and more in diameter or thickness are rolled from one (1) melt or blow, a test shall be made from the thickest and thinnest material rolled. Should any of these test specimens develop flaws or other injurious defects or should the tensile test specimen break outside of the middle third of its gauged length, it may be discarded and another test specimen substituted therefor. In case a tensile test specimen does not meet the specifications, an additional test may be made.

(j) The bend test may be made by pressure or by light blows. Rods showing fracture when bent to the required shapes shall not be used.

(k) Cold twisted rods shall be twisted with one (1) complete twist in a length equal to not more than twelve (12) times the thickness of the rod.

(l) Material must be free from seams, flaws, or other injurious defects, and have a workmanlike finish.

(m) Rods for reinforcement shall be rejected if the actual weight of any lot varies more than two and one-half ( $2\frac{1}{2}$ ) per cent. under the theoretical weight of that lot for rods of one (1) inch effective diameter or greater; or more than four (4) per cent. for rods having a diameter less than one (1) inch.

(n) The steel rods shall not be locally heated between their ends unless the entire rod is subsequently annealed. But the ends of the rods may be heated for bending hoops, loops or upsetting without subsequent treatment.

(o) Reinforcement shall be free from heavy rust or scale, flakes, oil, grease, paint, or coatings of any character whatever, but ends of rods left projecting for connection of future extensions may be painted, or imbedded in cement or a coat of asphalt.

Section 1170. (a) In proportioning the material for mortar and concrete, a sack of cement weighing ninety-four (94) pounds net shall be considered to measure (1) cubic foot.

(b) The concrete shall be so proportioned as to obtain the greatest maximum density, and when the design is based on the allowable unit working stresses hereinafter specified, shall develop a compressive strength of not less than two thousand (2,000) pounds per square inch at twenty-eight (28) days when tested in eight (8) inch diameter cylinders sixteen (16) inches long, made under laboratory

conditions of manufacture and storage, and of the same consistency as that used in the field.

(c) An increase or decrease may be made in the allowable unit working stresses proportional to any increase or decrease from the above specified compressive strength at twenty-eight (28) days as determined by actual tests, but this increase or decrease shall not exceed twenty-five (25) per cent.

(d) For reinforced concrete the ratio of the cement to the sum of the fine and coarse aggregate measured separately, shall not exceed one (1) to six (6). For concrete in foundations, piers and retaining walls this ratio shall not exceed one (1) to seven and one-half ( $7\frac{1}{2}$ ). In no case shall the ratio of cement to fine aggregate exceed one (1) to three (3).

(e) Mortar shall be so proportioned that the voids in the fine aggregate are overfilled by ten (10) per cent with cement, but in no case shall these proportions exceed one (1) part cement to three (3) parts fine aggregate. Mortar for setting hollow tile for reinforced hollow tile construction shall be proportioned as above, except when a richer mixture is required to render the mortar plastic and readily handled with a trowel.

(f) The separate ingredients shall be measured for each batch and thoroughly mixed to produce a mortar or concrete uniform in color, appearance and consistency. Except when limited quantities are required or when the conditions of the work made hand mixing preferable, mixing shall be done in a mechanical batch mixer from which a complete batch shall be discharged before another is received.

(g) Retempering mortar or concrete, that is, remixing with water after it has been partially set, shall not be permitted.

(h) No concrete shall be deposited until the reinforcement has been placed and firmly secured against displacement in water-tight forms which have been thoroughly wetted and made free from debris. Immediately after mixing, concrete shall be deposited and continuously consolidated with suitable tools as it is put in place so as to produce a dense compact concrete in which the aggregate have been uniformly distributed throughout the same. No traffic shall be permitted over concrete until it has set hard.

(i) Filing the forms completely and puddling afterwards, will not be permitted.

(j) Concrete shall not contain an excess of water. If there is a separation of the ingredients, it must be remixed at point of deposit. If concrete is spouted in open chutes, the chutes must be set at an inclination so as to avoid the separation of aggregates, and all transporting from mixer to place of deposit must be accomplished rapidly.

(k) Before depositing concrete upon concrete which has been



cleansed of loose material, drenched with mortar consisting of one (1) part Portland cement and one (1) part sand.

(l) Concrete shall not be deposited in water except when unavoidable. When concrete must be deposited under water, care shall be taken to prevent the cement being washed out.

(m) Concrete shall not be deposited when the temperature of the air or place of deposit is below thirty-two (32) degrees Fahrenheit unless special precaution is taken to avoid the use of frozen material and provisions made to prevent the concrete from freezing after being deposited until it has thoroughly hardened.

(n) When fresh concrete is exposed to a hot or dry atmosphere or wind, special precautions to prevent premature drying shall be taken. It shall be moistened at least twice daily for a period of seven (7) consecutive days after depositing, and to be protected from the direct heat of the sun and from a drying wind.

(o) In filling column forms concrete shall be poured in small batches. During the operation the concrete shall be constantly churned with a pole and the forms shall be jarred with a wooden mallet to settle and consolidate the concrete. All concrete shall be well worked around the reinforcement to eliminate all possibility of voids.

(p) The bottom of all columns shall consist of one (1) to two (2) inches of Portland cement mortar poured to not less than three (3) inches thick, and the concrete shall be placed before the mortar has set. Columns shall be cast at least one (1) day in advance of beams, girders and slabs, which they support. The pouring of a concrete column shall continue without interruption to the under side of beams or girders. Before resuming work the top of the column must be thoroughly cleansed of foreign matter, loose material and laitance.

(c) When "T" sections are used the slab must be poured at the same time as the beam concrete.

(r) Column footings shall be cast to their full depth and area without interruption.

Section 1171. (a) For the purpose of calculating the total load to be carried on columns in buildings of more than five (5) stories in height, the total live loads for the roof and topmost story shall be calculated in full, but for the lower stories a reduction of the live load will be permitted as follows:

(b) For the story next below the topmost story a reduction of five (5) per cent of the total live load shall be allowed; for next story ten (10) per cent., and so on by increments of five (5) per cent. per story till the reduction amounts to fifty (50) per cent. It

shall be taken at fifty (50) per cent. for all floors below. No such reduction as aforesaid shall be allowed in case of buildings upon which a live load of more than one hundred and fifty (150) pounds per square foot has been assumed. No reduction shall be allowed for computing floor slabs or secondary beams. A reduction of fifteen (15) per cent. of the live load is allowed in figuring the main or girder beams, except in buildings in which a live load of more than one hundred and fifty (150) pounds has been assumed.

(c) In case of concentrated or special loads, the calculations shall be based on the maximum effect of loading.

(d) For structures carrying machinery, such as cranes, conveyors, printing presses, etc., twenty-five (25) per cent. shall be added to the stresses from such live loads to provide for the effects of impact and vibrations.

(e) In every building where the live load exceeds one hundred and fifty (150) pounds per square foot, a notice shall be conspicuously posted and maintained on each floor, stating the maximum live load per square foot which may be carried on any part of such floor.

(f) No roof shall be designed for less than fifty (50) pounds per horizontal square foot dead loads and live loads and no flat roof shall be designed for a live load of less than forty (40) pounds per square foot.

(g) A snow load of twenty-five (25) pounds per horizontal square foot shall be used for all slopes up to twenty (20) degrees. This load may be reduced one (1) pound for each degree of increase in the slope up to forty-five (45) degrees, above which no snow load need be considered.

(h) Should the actual live load to be carried by any floor or roof exceed these enumerated in the foregoing classifications the greater load shall be used.

(i) All buildings, roofs, and exposed structures shall be designed to safely resist a horizontal wind pressure of twenty-five (25) pounds per square foot on the projected surface of the structure.

Section 1172. The weight of reinforced concrete shall be taken as one hundred and forty-four (144) pounds per cubic foot for stone or gravel concrete. For determining the weight per cubic foot of concrete in which approved aggregate other than stone or gravel are used, the weight per cubic foot shall be determined by actual test.

Section 1173. (a) The bending moments and stresses for beams and slabs of uniform section shall be calculated by the following engineering formulae: The bending moment due to external forces of freely supported beams and slabs reinforced in one (1) direction only and uniformly loaded shall be  $W. L.$  The moment formulae



used for uniformly loaded slabs reinforced in one (1) direction only, beams and girders of uniform load and of unbroken cross section, continuous over two (2) or more equal or nearly equal spans between supports shall be as follows: For two spans  $\frac{W. L.}{8}$ ;

than two (2) interior spans  $\frac{W. L.}{12}$ ; and for outside spans  $\frac{W. L.}{10}$ ;

cross sectional area of reinforcement over supports to be not less than that at the center of the span.

W equals the total load.

L equals the length of span in feet.

In computing the bending moments the effective span shall be taken. For freely supported beams or slabs the clear distance between supports plus the depth of the beam or slab at the supports, or distance between the centers of bearing, whichever may be the shorter shall be taken as the effective span. For fixed or partly fixed beams or slabs the effective span shall be taken as the distance from center to center of supports. Brackets shall not be considered as reducing the clear span.

(b) For all continuous beams and slabs the reinforcement at the top over supports must be at least equal to that used in the bottom at the center.

(c) The end spans of continuous beams or slabs shall be considered as fixed at one (1) end and freely supported at the outer end. All spans shall be designed to resist maximum bending moments for any condition of loading; and the reinforcement carried beyond the points of contraflexure.

(d) The bending moments at the center of a square slab freely supported on four (4) sides and equally reinforced in two (2) directions at right angles to each other and loaded uniformly may be taken as  $\frac{W. L.}{16}$  and the bending moment over the supports for a

square slab fixed on four (4) sides and reinforced in two (2) directions at right angles to each other, bent up over the supports may be taken as  $\frac{W. L.}{20}$ .

Section 1174. (a) For rectangular slabs, freely supported on four (4) sides, uniformly loaded and reinforced in both directions, the distribution of the loads shall be determined by the formula: R equals  $\frac{L^4}{L^4 + B^4}$  in which R equals the proportion of the load car-

ried by the transverse reinforcement, L equals the length and equals the breadth of the slab. If the length exceeds one and one-half

half ( $1\frac{1}{2}$ ) times its breadth, the entire load shall be assumed to be carried by the transverse reinforcement.

(b) Beams supporting rectangular slabs, reinforced in both directions, shall be assumed to take the proportion of load as determined by the above formula.

Section 1175. (a) In computing the required area of steel in freely supported slabs, only the longitudinal metal placed in direct line with the span shall be included, and the sectional area of diagonally placed metal shall be considered as taking the component stress of direct tension.

(b) The reinforcement spanning the shortest direction shall be above the reinforcement spanning the longer direction. Slab reinforcement shall be not farther apart horizontally than two (2) times the total thickness of the concrete slab, except in the end quarters of the span each way in spans reinforced in both directions. In slabs that are reinforced two (2) ways, the spacing of the rods in the end quarters may be twice the distance allowed for the middle half of the span, but in no case to exceed four (4) times the total thickness of the concrete slab, and the rods of reinforcement shall be each of the same cross sectional area throughout the slab.

Section 1176. (a) The following stresses are for concrete, the ultimate crushing strength of which at an age of twenty-eight (28) days is two thousand (2,000) pounds per square inch on an eight (8) inch diameter cylinder sixteen (16) inches in length. For concrete of greater or less compressive strength, proportionate increments to or reductions from the proposed stresses shall be made as herein before provided.

Bearing, .....	500 lbs. per sq. in.
Compression in extreme fiber, .....	650 lbs. per sq. in.
Axial compression in columns, .....	450 lbs. per sq. in.
Bond for steel, .....	80 lbs. per sq. in.
Tension for steel in beams, .....	16,000 lbs. per sq. in.
Tension for steel in columns eccentrically loaded not to exceed, .....	12,000 lbs. per sq. in.

compression on steel, reinforcing concrete, equals fifteen (15) times the working stress for concrete, when steel is anchored as hereinafter required.

(b) For axial compression on concrete in columns with longitudinal reinforcement only, to the extent of not less than one (1) per cent. and not more than four (4) per cent. supported by effective lateral ties, not further apart than sixteen (16) times the least diameter of rods nor more than the distance center to center of corner reinforcing rods four hundred and fifty (450) pounds per square inch.



(c) The strength of columns reinforced with longitudinal rods whose cross sectional area is not less than one (1) per cent. and not more than four (4) per cent. of the effective cross sectional area of the columns, and with bands or spirals having a volume of not less than five-tenths (0.5) per cent. of the hooped core, shall be calculated by the formulae given for hooped columns. Such hooping shall be concentric with the axis of the column and be circular in form, and its spacing center to center of hooping shall be not greater than one-sixth ( $\frac{1}{6}$ ) the diameter of the core nor more than three (3) inches. For one and one-half ( $1\frac{1}{2}$ ) diameters at each end the spacing shall not exceed one-half ( $\frac{1}{2}$ ) the spacing at the center of the column. Ends of hooping and ties shall be so united as to develop their full strength. Hooping shall be held rigidly in position by satisfactory connection to at least two (2) longitudinal rods so as not to become displaced while the concrete is being deposited. Length of column in this case not to exceed fifteen (15) times the diameter of the hooped core. The effective hooped core area shall be that which is included within the inside diameter of the hooping. Concrete outside of this area shall not be considered as a part of the effective column section.

(d) Provisions shall be made for stresses due to eccentric loading and the algebraic sum of all the stresses shall not exceed the maximum allowable unit stress. Members subjected to alternating stresses shall be designed to resist the maximum for each stress.

(e) All stresses at connection between reinforced concrete members shall be within the allowable unit working stresses.

Section 1177. (a) General assumption for moments of resistance under transverse loads:

(b) The ratio of the moduli of elasticity of steel and concrete or crushing strength of two thousand (2,000) pounds per square inch at twenty-eight (28) days shall be assumed to be fifteen (15), in calculating deflections, the value shall be assumed to be eight (8).

(c) The strain on any fiber is directly proportionate to its distance from the neutral axis.

(d) The modulus of elasticity of concrete in compression within the limits of working stresses is constant.

(e) The tensile stress in the concrete shall be neglected except to calculate deflections.

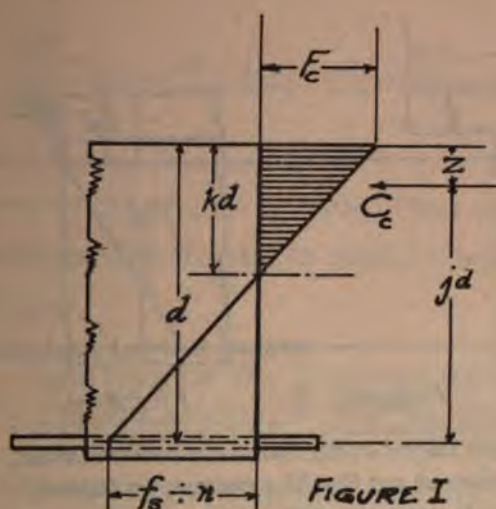
(f) The bond between the concrete and reinforcement is sufficient to make the two (2) materials act together.

(g) Initial stress in the reinforcement due to contraction or expansion in the concrete shall be neglected.

(h) The steel shall take all direct tensile stresses.

(i) Calculations shall be made with reference to working stresses and safe loads.

## 1- RECTANGULAR BEAMS



POSITION OF NEUTRAL AXIS

$$kd = d (\sqrt{2pn + (pn)^2} - pn). \quad (1)$$

ARM OF RESISTING COUPLE

$$jd = d - \frac{1}{3} kd. \quad (2)$$

RESISTING MOMENT FOR CONCRETE

$$Mc = \frac{1}{2} F_c k j b d^2 = \frac{1}{2} k (1 - \frac{1}{3} k) F_c b d^2. \quad (3)$$

RESISTING MOMENT FOR STEEL

$$Ms = f_s p j b d^2 = (1 - \frac{1}{3} k) p f_s b d^2 = f_s A_s d (1 - \frac{1}{3} k). \quad (4)$$

FIBER STRESSES

$$f_s = \frac{M}{A_s j d} = \frac{M}{p j b d^2}. \quad (5)$$

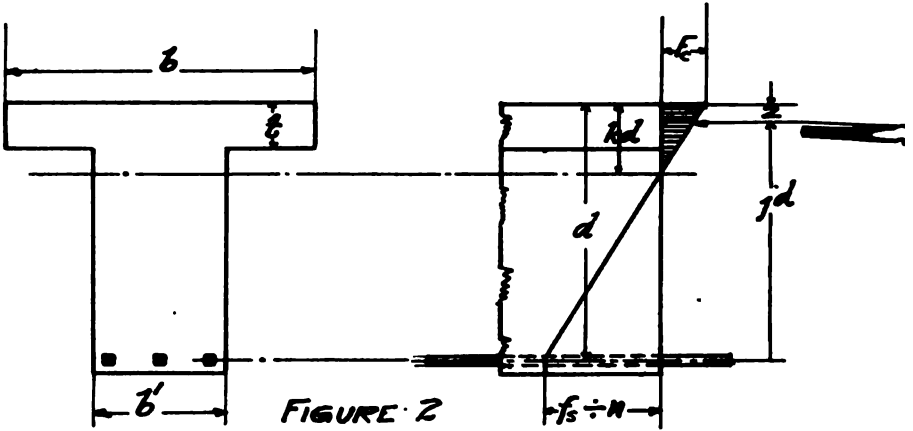
$$F_c = \frac{2M}{j k b d^2} = \frac{2p f_s}{k}. \quad (6)$$

STEEL RATIO, FOR BALANCED REINFORCEMENT

$$p = \frac{1}{2} \frac{F_c}{f_s} \left( \frac{f_s}{n F_c} + 1 \right) \quad (7)$$



## 2- TEE BEAMS



**CASE 1. WHEN THE NEUTRAL AXIS LIES IN THE FLANGE,**  
USE ORDINARY FORMULAS FOR RECTANGULAR BEAMS.

**CASE 2. WHEN THE NEUTRAL AXIS LIES IN THE STEM.**  
NEGLECTING COMPRESSION IN THE STEM.

**POSITION OF NEUTRAL AXIS**

$$kd = \frac{EcdAs + \frac{bt^3}{2}}{2nAs + \frac{bt^2}{2}} \quad (8)$$

**POSITION OF RESULTANT COMPRESSION**

$$Z = \frac{3kd - \frac{2t}{3}}{2kd - t} \times \frac{t}{3} \quad (9)$$

**ARM OF RESISTING COUPLE**

$$jd = d - Z \quad (10)$$

**RESISTING MOMENT FOR CONCRETE**

$$M_c = Ec \left[ t - \frac{1}{2k} \times \frac{(t)^2}{d} \right] jbd \quad (11)$$

**RESISTING MOMENT FOR STEEL**

$$M_s = fs As jd \quad (12)$$

**FIBER STRESSES**

$$Ec = \frac{Mkd}{bt(kd - \frac{1}{2}t)jd} = fs \frac{k}{n(r-k)} \quad (13)$$

$$fs = \frac{M}{Asjd} \quad (14)$$

## Z-TEE BEAMS CONTINUED

FOLLOWING FORMULAS TAKE INTO ACCOUNT COMPRESSION IN THE STEM; THEY ARE TO BE USED WHERE THE FLANGE IS SMALL COMPARED TO STEM:

POSITION OF THE NEUTRAL AXIS

$$1. \sqrt{\frac{2nd A_s + (b-b')t^2}{b'} + \left(\frac{n A_s + (b-b')t}{b'}\right)^2} = \frac{n A_s + (b-b')t}{b'} \quad (15)$$

POSITION OF RESULTANT COMPRESSION

$$\frac{(kd^2 - \frac{2}{3}t^3)b + [(kd-t)^2(t + \frac{1}{3}(kd-t))]b'}{t(2kd-t)b + (kd-t)^2b'} \quad (16)$$

ARM OF RESISTING COUPLE

$$jd = d - z. \quad (17)$$

RESISTING MOMENT FOR CONCRETE

$$= \frac{f_c}{2} kd [(2kd-t)bt + (kd-t)^2b'] jd. \quad (18)$$

RESISTING MOMENT FOR STEEL

$$= f_s A_s jd. \quad (19)$$

FIBER STRESSES

$$= \frac{M}{A_s jd}. \quad (20)$$

$$= \frac{zMkd}{[(2kd-t)bt + (kd-t)^2b']} jd. \quad (21)$$



### 3-BEAMS REINFORCED FOR COMPRESSION

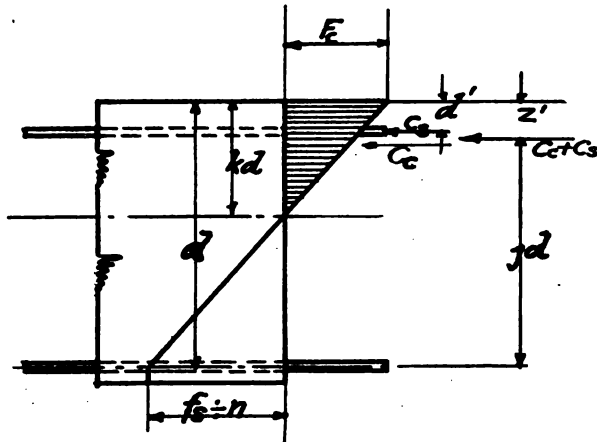


FIGURE 3

POSITION OF NEUTRAL AXIS

$$kd = d \left( \sqrt{2n(p+p') \frac{d'}{d}} + n^2(p+p')^2 - n(p+p') \right) \quad (22)$$

POSITION OF RESULTANT COMPRESSION

$$z = \frac{\frac{1}{3} k^2 d + 2p' n d' (k - \frac{d'}{d})}{k^2 + 2p' n (k - \frac{d'}{d})} \quad (23)$$

ARM OF RESISTING COUPLE

$$jd = d - z \quad (24)$$

MOMENT OF RESISTANCE FOR CONCRETE

$$M_c = \frac{1}{6} \left[ (3k - k^2 + \frac{6p'n}{k} (k - \frac{d'}{d}) (1 - \frac{d'}{d})) \right] F_c b d^2 \quad (25)$$

MOMENT OF RESISTANCE FOR STEEL

$$M_s = f_s A_s jd = f_s p j b d^2 \quad (26)$$

FIBER STRESSES

$$F_c = \frac{6M}{b d^2 \left[ 3k - k^2 + \frac{6p'n}{k} (k - \frac{d'}{d}) (1 - \frac{d'}{d}) \right]} \quad (27)$$

$$f_s = \frac{M}{p j b d^2} = n F_c - \frac{1-k}{k}; f'_s = n F_c \frac{k - \frac{d'}{d}}{k} \quad (28)$$

#### 4-SHEAR, BOND & WEB REINFORCEMENT

IN THE FOLLOWING FORMULAS,  $O$  REFERS ONLY TO THE BARS CONSTITUTING THE TENSION REINFORCEMENT AT THE SECTION IN QUESTION, &  $jd$  IS THE LEVER ARM OF THE RESISTING COUPLE AT THE SECTION.

FOR RECTANGULAR BEAMS

$$v = \frac{V}{b \cdot jd} \quad (29)$$

$$u = \frac{V}{jd \cdot O} \quad (30)$$

THE STRESSES IN THE WEB REINFORCEMENT SHALL BE ESTIMATED BY THE FOLLOWING FORMULAS.

VERTICAL WEB REINFORCEMENT.

$$D_s = V \times \frac{s}{jd} \quad (31)$$

WEB REINFORCEMENT INCLINED AT  $45^\circ$   
(NOT BENT UP BARS)

$$D_b = 0.7 \frac{V \times s}{jd} \quad (32)$$

BEAMS REINFORCED FOR COMPRESSION, SAME AS ABOVE.

FOR TEE BEAMS

$$v = \frac{V}{b \cdot jd} \quad (33)$$

$$u = \frac{V}{jd \cdot O} \quad (34)$$

#### 5- COLUMNS NOT HOOPED

TOTAL SAFE LOAD

$$P = F_c (A_c + n A_s) \cdot F_c + n (1 + m - p) \quad (35)$$

UNIT STRESSES

$$F_c = \frac{P}{A_c + n A_s} \quad (36)$$

$$f_s' = n F_c \quad (37)$$

#### 6- HOOPED COLUMNS

TOTAL SAFE LOAD

$$P = (A_c + A_s) (750 + 4.8 \frac{16000 \times 2 A_y}{s}) \quad (38)$$

$$F_c' = 750 + 4.8 \frac{16000 \times 2 A_y}{s} \quad (39)$$

$$f_s' = n F_c \quad (40)$$

THE UNIT STRESSES FOR EXTERIOR COLUMNS SHALL BE 20% LESS THAN AS CALCULATED ABOVE.



### 3-BEAMS REINFORCED FOR COMPRESSION

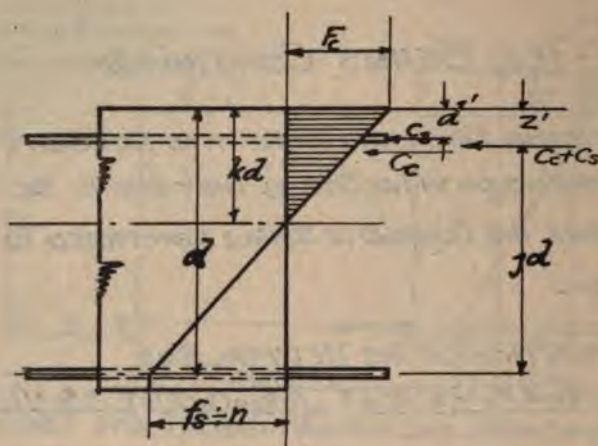


FIGURE 3

POSITION OF NEUTRAL AXIS

$$kd = d \left( \sqrt{2n(p+p') \frac{d'}{d}} + n^2(p+p')^2 - n(p+p') \right) \quad (22)$$

POSITION OF RESULTANT COMPRESSION

$$Z = \frac{\frac{1}{3} k^3 d + 2p'n d' (k - \frac{d'}{d})}{k^2 + 2p'n (k - \frac{d'}{d})} \quad (23)$$

ARM OF RESISTING COUPLE

$$jd = d - Z \quad (24)$$

MOMENT OF RESISTANCE FOR CONCRETE

$$M_c = \frac{1}{6} \left[ (3k - k^2 + \frac{6p'n}{k} (k - \frac{d'}{d}) (1 - \frac{d'}{d})) \right] f_c b d^2 \quad (25)$$

MOMENT OF RESISTANCE FOR STEEL

$$M_s = f_s A_s jd - f_s p j b d^2 \quad (26)$$

FIBER STRESSES

$$f_c = \frac{6M}{b d^2 \left[ 3k - k^2 + \frac{6p'n}{k} (k - \frac{d'}{d}) (1 - \frac{d'}{d}) \right]} \quad (27)$$

$$f_s = \frac{M}{p j b d^2} = n f_c - \frac{L k}{k}; f'_s = n f_c \frac{k - \frac{d'}{d}}{k} \quad (28)$$

#### 4-SHEAR, BOND & WEB REINFORCEMENT

IN THE FOLLOWING FORMULAS,  $O$  REFERS ONLY TO THE BARS CONSTITUTING THE TENSION REINFORCEMENT AT THE SECTION IN QUESTION, &  $jd$  IS THE LEVER ARM OF THE RESISTING COUPLE AT THE SECTION.

FOR RECTANGULAR BEAMS

$$v = \frac{V}{b \cdot jd} \quad (29)$$

$$u = \frac{V}{j \cdot d \cdot O} \quad (30)$$

THE STRESSES IN THE WEB REINFORCEMENT SHALL BE ESTIMATED BY THE FOLLOWING FORMULAS,

VERTICAL WEB REINFORCEMENT.

$$D_s = V \times \frac{s}{j \cdot d} \quad (31)$$

WEB REINFORCEMENT INCLINED AT  $45^\circ$   
(NOT BENT UP BARS)

$$D_s = 0.7 \frac{V \times s}{j \cdot d} \quad (32)$$

BEAMS REINFORCED FOR COMPRESSION, SAME AS ABOVE.

FOR TEE BEAMS

$$v = \frac{V}{b \cdot j \cdot d} \quad (33)$$

$$u = \frac{V}{j \cdot d \cdot O} \quad (34)$$

#### 5- COLUMNS NOT HOOPED

TOTAL SAFE LOAD

$$P = F_c (A_c + n A_s) = F_c \cdot A (1 + n \cdot p) \quad (35)$$

UNIT STRESSES

$$F_c = \frac{P}{A_c + n A_s} \quad (36)$$

$$f_s = n F_c \quad (37)$$

#### 6- HOOPED COLUMNS

TOTAL SAFE LOAD

$$P = (A_c + A_s) \left( 750 + 4.8 \frac{16000 \times 2 A_y}{h} \right) \quad (38)$$

$$F_c = 750 + 4.8 \frac{16000 \times 2 A_y}{h} \quad (39)$$

$$f_s = n F_c \quad (40)$$

THE UNIT STRESSES FOR EXTERIOR COLUMNS SHALL BE 20% LESS THAN AS CALCULATED ABOVE.



3.  $u$  equals bond stress per unit area of rod.
4.  $o$  equals circumference or perimeter of one rod.
5.  $O$  equals sum of perimeters of all rods.
6.  $D_s$  equals stress in single reinforcing member.
7.  $s$  equals horizontal spacing of the reinforcing member.

**Columns—**

1.  $A$  equals total net area of column.
2.  $A_s$  equals area of vertical or longitudinal steel in square inches.
3.  $A'_c$  equals effective area of concrete core measure to the inside of the hooping.
4.  $P$  equals total safe load.
5.  $A_y$  equals cross sectional area of one rod of hooping of lateral reinforcement.
6.  $S$  equals vertical spacing of hoops or pitch of helical wrapping.
7.  $h$  equals inside diameter of hooping.
8.  $f'_c$  equals allowable increased stress in direct compression in concrete.

Section 1179. (a) The computations can be made in the same manner as sections of homogeneous materials if, in the area and moments of resistance, the section of the reinforcement is added to that of the concrete with  $n$  equals fifteen (15) times its value. If tensile strains occur, the steel reinforcement on the tension side must be made to resist the same.

(b) In monolithic beam and slab construction an effective metallic bond shall be provided at junction of the beam and slab. Where the principal slab reinforcement is parallel to the girder, transverse reinforcement shall be used, extending over the main beam and well into the slab.

(c) When slab and web of "T" beams are cast at the same time, when fully reinforced transversely the slab flange may be considered an integral part of the beam, but its effective width shall not exceed three (3) times the maximum width of the stem, nor four (4) times the thickness of the slab on each side of the stem, nor more than one-half ( $\frac{1}{2}$ ) the distance between the centers of adjacent "T" beams, whichever of these dimensions is the least. The effective width of the flange for outside wall beams or those around opening shall be twice the width of the stem, or three (3) times the thickness of the slab, whichever is least.

(d) In continuous "T" beams, the compressive stresses at the underside of the beams at the support must be computed and shall not exceed the working stresses. Brackets built out from beam with a ratio of two (2) horizontal to one (1) vertical shall be included in the depth and be assumed to be a part of the beam.

(e) Cement finish added to the top of slabs, girders and beams shall not be calculated as a factor in their strength, unless laid integrally with the rough concrete, and no greater unit stress shall be allowed on such cement finish than on the rough concrete.

(f) Reinforcement for temperature stresses shall be calculated for a variation of not less than fifty degrees (50) Fahrenheit when the structure cannot expand and contract freely.

(g) In members carrying transverse loads, the effective depth shall be not less than one-twentieth (1/20) of the span. The minimum width of the beam or girder shall be not less than one-third ( $\frac{1}{3}$ ) the effective depth and in no case less than four (4) inches. By effective depth is meant distance from extreme fiber in compression to the center of the gravity of the reinforcement. In roof or floor slabs the effective depth shall be not less than one-thirtieth (1/30) of the span, but three (3) inches shall be the minimum permissible depth for any roof or floor slab, unless herein otherwise provided in special cases. In "T" beams the stem depth shall not exceed eight (8) times the thickness of the slab.

(h) Reinforcement shall be accurately located in the forms and mechanically secured against displacement from the position shown on the drawing. The reinforcement shall extend beyond the edge of the support and into the adjacent construction for full and effective anchorage.

(i) The minimum diameter of the main reinforcing rods in slabs shall be not less than one-quarter ( $\frac{1}{4}$ ) inch, and in beams and girders not less than one-half ( $\frac{1}{2}$ ) inch diameter. However, where the reinforcement of the slab is continuous or fabricated mesh reinforcement, one-eighth ( $\frac{1}{8}$ ) inch shall be the least diameter of the reinforcing steel, but same shall not be used in slabs exceeding eight (8) foot span, unless herein otherwise provided in special cases. The maximum diameter of main reinforcing rods in slabs shall not exceed one (1) inch, and the maximum diameter of main reinforcing rods in beams shall not exceed one and three-quarters ( $1\frac{3}{4}$ ) inches.

(j) The distance center to center between main reinforcing rods in beams with diagonal tension fully carried by the steel shall be not less than twice the minimum diameter of the rods, and not greater than four (4) inches. For beams where the diagonal tension is only partially carried by the steel not less than three (3) times the minimum or nominal diameter or thickness of the rods, except at joint where the rods may be bound together. Slab reinforcement shall have at least one (1) inch space between rods. Except at laps the maximum distance between rods shall not exceed twelve (12) inches nor more than twice the effective depth of the slab. Slabs carrying concentrated loads shall have rods provided to distribute such loading. Where woven wire or other mesh rein-



forcement is used, it shall be rendered continuous by means of a side lap of not less than three (3) inches. It shall be of such dimensions as to enable the aggregate to easily pass through the meshes.

(k) Slabs reinforced in one direction only, shall have shrinkage rods placed above the reinforcement, same being not less than one quarter ( $\frac{1}{4}$ ) inch round, and spaced not over two (2) feet apart or the equivalent thereof.

(l) When steel is used in compression side of beams, the reinforcement shall be tied with rods connecting with the tensional steel of the beam. The ties shall be not further apart center to center than two-thirds ( $\frac{2}{3}$ ) of the effective depth of the member and not further apart than twenty (20) diameters of the anchorage rod.

(m) Where the diagonal tension exceeds forty (40) pounds per square inch, diagonal tension reinforcement shall be supplied sufficient to carry the excess. The web reinforcement shall be rigidly attached to the horizontal bottom rods and extending to the top of the beam and into the adjacent construction, for full and effective anchorage, or the bottom rods may be bent upwards and shall extend from bottom to top of beam and in the adjacent construction as above. In case the diagonal tension is carried in part by steel the calculated stress in the steel shall not be in excess of fifteen (15) times that in the concrete. In no case shall the vertical shear of the cross section of beam or slab exceed one hundred and twenty (120) pounds per square inch. Diagonal tension is resisted by steel. For "T" sections the width of the stem only shall be used in calculating the longitudinal shear and diagonal tension.

(n) Where stirrups are used they shall be rigidly attached to the horizontal reinforcement, and designed to transfer the shear increments. Stirrups shall be spaced in proportion to the distribution of the shearing stress, and in no case shall this spacing exceed the effective depth of the beam. The connection of stirrups to horizontal reinforcement shall develop the full strength of the stirrups and no vertical stirrup shall be placed under a concentrated load. Stirrups shall extend at least from bottom reinforcement to within two (2) inches of the top of the concrete and be anchored at both ends.

(o) Wherever it is necessary to splice reinforcement by means of lapping, the length of the lap shall be determined upon the basis of the safe bond stress in the bar at the point of splice, or a mechanical connection of equivalent strength shall be made between the rods. Lapping at the point of maximum stress must be avoided. In no case shall the slab or beam steel be lapped or spliced except over supports.

Section 1180. (a) The least permissible dimension on diameter of the effective cross section of a reinforced concrete column shall be nine (9) inches, and such effective cross section shall be as herein defined. The ratio of length to least side or diameter shall not in any case exceed fifteen (15), where the effective diameter is the least diameter from out to out of vertical reinforcement, and the length shall be the distance between lateral supports irrespective of any corbel or knee brace.

(b) All columns shall have at least four (4) vertical, straight and plumb reinforcing rods throughout entire length. All rods shall be tied laterally at distances not exceeding sixteen (16) times the least diameter of the rod. The total cross sectional area of the longitudinal reinforcement shall be not less than one (1) per cent. nor more than four (4) per cent. of the effective cross sectional area of the column. The diameter of reinforcing rods shall be not less than three-quarters ( $\frac{3}{4}$ ) of an inch, nor more than one and one-half ( $1\frac{1}{2}$ ) inches. The least thickness of the lateral reinforcement for columns with minimum sized longitudinal reinforcement only shall be not less than one-eighth ( $\frac{1}{8}$ ) inch for each lateral tie, and proportionately increased for larger rods. For columns reinforced with bands or spirals, such hooping shall have a volume of not less than five-tenths (0.5) per cent. of the volume of the column core. The thickness of any bands or spirals shall be not less than one-eighth ( $\frac{1}{8}$ ) inch. In columns of rectangular cross section where the longer side exceeds the shorter side by one and one-half ( $1\frac{1}{2}$ ), the cross section of the column shall be subdivided by cross ties between the vertical reinforcing rods and the distance between the vertical reinforcing rods on the longer side shall not exceed the same distance on the shorter side. Splices in vertical reinforcing shall only be made directly above the floor levels or other point of lateral support. Butt joints and splices shall be made by tight fitting pipe sleeves and have the ends of the rods faced or squared, or by lapping and clamping the rods together sufficiently to properly transmit the tension and compression stresses as required by this act. Where rods are in tension the splices shall be a positive connection sufficient to transmit all the stresses. All vertical reinforcement shall be directly over the reinforcement in the columns below, and short bends shall be avoided. Wherever structural steel columns are used, the steel work shall be designed to carry the full live load and dead load, except for the allowable reductions in live loads, and the concrete considered only as a protection to the steel. No conduits or materials other than the reinforcing will be permitted to be placed in the effective area of the columns, nor will any cutting be permitted for any purpose in a completed column.



(c) Reinforced concrete curtain walls shall be not less than four (4) inches thick, and shall have vertical and horizontal reinforcement spaced not exceeding one (1) foot between centers, and fastened to each other at each intersection. In all curtain walls where the tension shall be continuous or constant and on one (1) face only, the reinforcement shall be placed in opposite face of wall to the application of the stress. Interior non-bearing partition walls may be made three (3) inches thick when properly reinforced. All curtain walls shall be securely connected to contiguous construction.

(d) No cutting of openings in concrete walls, floors, or effective area of columns, for piping or any other purposes, that will reduce the strength of any part of the structure below the requirements of these rules shall be permitted.

(e) The proportion of reinforcement shall be not less than one-third (1/3) of one (1) per cent. of the cross sectional area of the wall.

(f) The maximum height of bearing wall shall not exceed thirty (30) times the least thickness, nor a length of twenty (20) feet without stiffening.

(g) In cases where walls support vertical loads or resist lateral pressures, they shall be of such thickness to keep the stresses within the limits of these rules.

Section 1181. (a) Exposed metal of any kind will not be considered a factor in the strength of any part of any concrete structure, and plaster finish applied over the metal shall not be deemed sufficient protection.

(b) Longitudinal reinforcement shall be straight and true and shall have sufficient lateral supports to be securely held in place until the concrete is set.

(c) Where possible, rods shall be bent cold. If heating is necessary at the end of the rods, care must be exercised that the steel is not burnt or heated above a low cherry red. Bending the rods shall be carefully done so that all the bends are in the same true line and plane.

(d) A minimum fire protection, coating the reinforcement, of one and one-half (1½) inches of concrete shall be provided for columns, but when computing the strength this shall not be included in the effective cross sectional area. Girder and beam reinforcement shall have fire protection of a minimum of one and one-half (1½) inches of concrete, and floor slabs and wall reinforcement with a minimum of one-half (½) inch. External and re-entrant angles of the concrete or reinforced concrete construction shall be either bevelled or rounded. The minimum thickness of protection here mentioned is the shortest distance from the outer surface of the concrete to the nearest face of the stressed metal reinforcement.

(e) In concrete work that is exposed to the elements or action of water and other fluids, a minimum protective thickness of one and one-half ( $1\frac{1}{2}$ ) inches must be provided, measured from exposed surface of the concrete to the metal. A suitable damp-proofing application shall be applied to the exterior of reinforced concrete exposed to moisture, or the density of the concrete shall be intensified, or by adding a tried and proven compound to the mixture which may be applied in a proper manner to the exposed surfaces.

Section 1182. (a) All hollow tile must be thoroughly wet before using and while concrete is being placed; when used in columns tile must be set with the webs in direct line of pressure, and great care shall be used to flush the joints between the webs full of mortar, by brushing a skim coat of mortar over the top of the tile and working same down between the tile.

(b) All vertical tile joints must stagger and must be of proper dimensions to meet this condition, as no broken tile will be allowed.

(c) All tile work to be set plumb with uniform horizontal joints, thickness not to exceed three-eighths ( $\frac{3}{8}$ ) of an inch, and such joints shall be imbedded full with cement mortar. The time which shall elapse between the finishing of the work and before any load is placed thereon shall be not less than seven (7) days.

(d) The minimum depth of concrete joist shall be one-twentieth ( $\frac{1}{20}$ ) of the span.

(e) The slab thickness for all slabs above the top of the tiles or blocks shall be not less than two (2) inches if the joist is considered as a "T" beam section cast monolithic. Otherwise the joists shall be figured as rectangular beams.

(f) All concrete joists must have solid end bearings on supports of a width not less than one-half ( $\frac{1}{2}$ ) the total depth of the floor at each end of all joists.

(g) The joists between tiles shall be slushed full of mortar as hereinbefore required.

(h) Tiles must be set and maintained in straight rows to avoid displacement when concrete is being poured for joists.

(i) Columns of hollow tile, in which the sectional area of the openings in each block does not exceed twenty (20) per cent. of the gross sectional area of such block, and when webs are spaced not more than four (4) inches apart, may be used for structural purposes; providing the length of such column shall not exceed twelve (12) times the least diameter, and that they are properly bonded and reinforced. An axial pressure of four hundred (400) pounds per square inch of area of webs and walls of the tile may be allowed on such columns.



Section 1183. (a) Construction joists shall be so provided as not to affect the strength of the structure. Vertical or horizontal joints shall be provided at the termination of every day's work or when the work has been stopped for a period of eight (8) hours or more. Construction joints in slabs and beams shall be bulkheaded vertical and normal to the surfaces within the middle third of the span. When a beam intersects another at the center of the span, the joint shall offset a distance not less than the depth of the larger beam and shall be reinforced for shear. Any concrete which shall run past the bulkheads must be cleaned out of the forms before concreting of the next section is started. No joints in monolithic concrete work will be allowed between slab and "T" beam or at the columns, and no joint shall be allowed near points of concentrated loads or heavy shear. In columns, horizontal joints shall be made even with lower side of girders. Exceptions to methods of stopping the concrete given above may be made in special cases if approved in writing by the State Building Commissioner or Chief Building Inspector.

(b) When concrete is deposited continuously and when not otherwise provided by sufficient reinforcement, shrinkage joints must be located at distances not exceeding fifty (50) feet.

(c) When concrete is subject to variations of temperature, provision must be made against expansion stresses, either by imbedding within three (3) inches of the exposed surfaces not less than one-tenth (1-10) square inch of sectional area of reinforcement per lineal foot in any rectilinear direction, or by providing joints at suitable intervals.

Section 1184. (a) All forms must be made of such dimensions and so constructed as to remain rigid while depositing and setting of the concrete. The forms for beams, girders and lintels shall be so designed that at least one (1) side of each beam and girder may be removed without disturbing the bottom portion of forms and its supports. All posts supporting forms of slabs, beams and girders shall be loosened and removed without producing undue strain or shock in the floor system. Forms shall be built with camber and otherwise suitable precautions taken to overcome effects of settlement, insuring true levels in slabs, beams, etc. Posts which are to be supported by the ground shall have their loads distributed by spread footings, so that there may be no settlement of posts due to settlement of their foundations.

(b) The forms used to support the concrete shall not be removed in less time than fixed in the following schedule, unless said time be reduced by a written order of the State Building Commissioner or Chief Building Inspector.

(c) The following schedule is based upon the assumption that the concrete has been placed at temperature above thirty-two (32) de-

degrees Fahrenheit, and that ample shores are left in place to carry the superimposed weight. When concrete is placed below thirty-two (32) degrees Fahrenheit special permit must be obtained before removing forms.

For slab and lintel forms:

Span six (6) feet and less, seven (7) days.

Span six (6) feet to fifteen (15) feet, fourteen (14) days.

Span fifteen (15) feet to twenty (20) feet, twenty-one (21) days.

For main beams, twenty-one (21) days.

For sides of main beams, four (4) days.

For columns, four (4) days.

For wall forms not exceeding six (6) feet of vertical height of wall, four (4) days.

For reinforced hollow tile floors, same as slab and lintel forms.

Posts shall not be removed from under any floor within seven (7) days after the floor next above has been cast.

All beams and girders having more than thirty (30) foot span from center to center of support shall be considered as special cases, and removal of forms shall be subject to the approval of the State Building Commissioner or Chief Building Inspector.

(d) Before removing temporary supports and girders, the form on at least one (1) side of adjacent column and one one (1) side of each beam and girders shall be removed in order to expose the concrete to view so as to give evidence as to whether or not the concrete is sound and hard.

(e) When forms are being removed there shall be no load upon the portion of the concrete affected in excess of one-sixth (1-6) of the live load, unless temporary posts are left in place to take care of such loads. Floor forms must be supported by continuous lines of temporary vertical posts (sufficient to carry the floor weights) extending down to the basement or floor which should be strong enough to carry the upper floor loads. These props may be removed at such times as the upper floors harden sufficiently to safely carry their own load.

(f) A set of drawings shall be filed on the work upon which shall be marked in ink by the superintendent in charge of construction, the progress of the concrete work, stating the time and dates on which the concrete was deposited and the dates on which the forms may be removed.

Section 1185. (a) For foundations constructed on concrete piles, or where concrete piles are used, the piles shall be imbedded in concrete footings to such an extent and so proportioned that in the transmission of the load from the structure to the pile, the stresses in the materials shall not exceed those described in this act, and if subjected to lateral strains, be reinforced to resist such bending with



not less than eight-tenths (0.8) per cent. of vertical reinforcing, said reinforcement projecting into the footings where practicable.

(b) The State Building Commissioner or Chief Building Inspector may require auger borings of the soil to be made to determine the position of the rock or the character of the underlying strata. The center of gravity of a pile foundation shall coincide with the center of gravity line of the load or loads which it carries. No pile of less than six (6) inches diameter at small end shall be used.

(c) The safe load on a pile shall be determined by and shall not exceed the following formulae:

$$\text{For a pile driven with a steam hammer, } P \text{ equals } \frac{2wH}{G+0.1}$$

$$\text{For a pile driven with a drop hammer, } P \text{ equals } \frac{2wH}{G+1.0}$$

In which formulae:

G—penetration in inches under last blow.

H—fall of hammer in feet.

W—weight of hammer in pounds.

P—safe load in pounds.

The butt must be of full dimension and leveled off for bearing, and in no instance shall the load on a pile exceed sixty thousand (60,000) pounds.

(d) Footings when resting on pile foundations shall be designed for concentrated loads due to the pile reactions and not as distributing the column loads uniformly over the area of the base of the footings. No part of the load to be carried shall be figured on the soil surrounding the pile. Plans for pile foundations shall be submitted to the State Building Commissioner or Chief Building Inspector for approval and shall specify the dimensions and spacing of the piles.

(e) For walls less than fifty (50) feet in height a single row of piles may be used, if other conditions of stability are complied with. For walls fifty (50) to seventy (70) feet in height two (2) rows shall be used. For walls over seventy (70) feet in height not less than three (3) rows of piles shall be used. However, concrete piles may be placed in groups of two (2) or more and suitably connected, when so approved by the State Building Commissioner or Chief Building Inspector.

**Special Requirements for Concrete Construction of Buildings and Structures Prior Erected and Constructed.**

Section 1186. Buildings and structures prior erected of concrete construction shall be examined as often as may be necessary by the State Building Commissioner or Chief Building Inspector, and if

the repair of such buildings as may be necessary to preserve life and property; provided that, where prior erected buildings and structures of concrete construction are repaired the provisions of this act relating to concrete construction of buildings hereafter erected shall be conformed to as nearly as possible.

#### ARTICLE XVI.

##### Special Requirements for Hollow Block and Terra Cotta Tile Used in The Erection and Construction of Buildings and Structures Hereafter Erected.

Section 1187. (a) Hollow block and terra cotta tile may hereafter be used in the construction of dwellings, private stables, private garages, bulkheads, curtain or partition walls and bearing walls; provided that, the provisions of this act are fully complied with.

(b) In addition to the requirements of this act regulating the use of hollow block and terra cotta tile in the construction of curtain and partition walls and the construction of bearing walls, all such construction shall be subject to the approval of the State Building Commissioner or Chief Building Inspector; provided that, in bearing walls it shall not be counted in estimating the strength of such walls.

(c) Hollow block and terra cotta tile shall not be used in the construction of foundation walls or common walls.

(d) Hollow block and terra cotta tile where permitted to be used in walls or partitions shall not be placed on or against nor be supported in whole or in part by any wooden beam, girder or post, nor by any construction of other than of approved fire-resistive materials.

Section 1188. (a) Hollow block and terra cotta tile hereafter used in the construction of walls or partitions shall be hollow terra cotta well manufactured and free from checks and cracks. Each piece and block shall be molded square and true and shall be hard burned so as to have a clear, good ring when struck, and so as not to absorb more than twelve (12) per cent. of its own weight in moisture. Each of said pieces or blocks shall develop an ultimate crushing strength of not less than three thousand (3,000) pounds per square inch of available section or web, and shall not be loaded when in the wall more than one hundred (100) pounds per square inch of effective bearing area.

(b) Terra cotta tile shall have outer shells or walls not less than three-quarters ( $\frac{3}{4}$ ) inch and shall be additionally reinforced by continuous interior walls or webs which shall be not less than one-half ( $\frac{1}{2}$ ) inch thick, and so arranged that no void shall exceed four (4) inches in cross section at any point.



(c) The State Building Commissioner or Chief Building Inspector may require a test to be made of all terra cotta blocks allowing them to be placed in the wall, if in his opinion the same shall be necessary.

Section 1189. Hollow block and terra cotta tile may be used in face bearing walls; provided that, it is not counted as a part of the thickness of the wall.

Section 1190. (a) Where hereafter permitted by this act in exterior and bearing walls of dwellings, hollow block and terra cotta tile shall have the minimum thickness given in the following table:

Number of Stories.	Thickness of Walls.	
	First Story Inches.	Second Story Inches.
1. ....	8	
2. ....	12	8
3. ....	12	12

(b) Such exterior and bearing walls shall not have a height more than twelve (12) feet clear measured from the floor covering flooring to the ceiling.

(c) Where so used in such walls terra cotta tile blocks shall not be less than eight (8) inches thick by twelve (12) inches when the voids are placed vertically.

(d) Such exterior and bearing walls shall be plastered on the outside with portland cement mortar not less than three-quarters of an inch thick and such walls shall be not more than three (3) stories in height.

Section 1191. Where hollow block and terra cotta tile is used in curtain or partition walls such walls and partitions shall be not less than four (4) inches thick if twelve (12) feet in height, and not less than six (6) inches thick when more than twelve (12) feet in height. Where the length of such walls and partitions exceeds twenty-five (25) feet they shall be strengthened by cross walls, piers, buttresses or metal framework properly protected whenever the same shall be deemed necessary by the State Building Commissioner or Chief Building Inspector.

Section 1192. Openings more than three (3) feet in width in walls or partitions constructed of hollow block and terra cotta tile shall have lintels composed of steel, reinforced concrete or terra cotta tile reinforced and filled with concrete of sufficient strength to carry the load imposed.

the same shall be unsafe the State Building Commissioner or Chief Building Inspector shall make such rules and regulations governing

Section 1193. (a) When the floor or roof load is applied to exterior and bearing walls constructed of hollow block and terra cotta tile in concentration of two (2) tons or more at one (1) place, a solid pier of brick, reinforced concrete or terra cotta tile reinforced and filled with concrete shall be used under each concentration. The thickness of each of said piers shall be not less than twice the thickness of the wall of which it is a part, and no pier shall be loaded in excess of one hundred (100) pounds per square inch of its area.

(b) Wherever floor slabs or joists are laid on hollow block or terra cotta tile with the voids set vertically, and wherever there is a change in the thickness of the wall, the course upon which such slabs or joists rest or upon which the thinner wall rests shall have the voids in the tiles or blocks in the course bearing the load solidly filled with portland cement concrete, and no joist, timber, beam or girder shall be so laid as to bear or transmit a load to the wall without having an iron or terra cotta bearing plate or a plate of first quality of hard brick or of concrete filled or solid block under the same at the point where the load is transmitted. In no case shall the area of the block to which the load is transmitted be less than double the area of the joist, timber, beam or girder transmitting the load.

Section 1194. All walls permitted by this act to be constructed of hollow block and terra cotta tile shall be constructed in the following manner: The blocks shall be set only in portland cement mortar composed of not less than one (1) part portland cement to three (3) parts clean, sharp river sand. This mortar may be tempered with one (1) part lime paste to eight (8) parts of mortar. Tile blocks shall be thoroughly bonded, one to another, both vertically and longitudinally, and all joints filled with mortar, and when tiles are set in the wall, the vertical web of one (1) shall occur as nearly as practicable directly over the vertical web of the adjacent tile below. All vertical joints must be staggered. The blocks may be built with voids horizontally and with mortar joints between all blocks, or they may be built with voids vertical, provided all horizontal bearings or joints are reinforced with metal fabric of from one-eighth ( $\frac{1}{8}$ ) to one-half ( $\frac{1}{2}$ ) inch mesh, capable of holding the mortar. This fabric shall be one-half ( $\frac{1}{2}$ ) inch less in width than the width of the wall of the course upon which it is applied and shall be double lapped at all corners. Such web shall be spread on each horizontal course of tile before the mortar is put on, and shall be completely covered with and imbedded in portland cement mortar as the course of blocks upon it is being laid. No cutting of blocks will be allowed to admit pipes in bearing walls when



pipes extend more than one-third (1/3) of the story in height. The metal fabric hereinbefore specified may be omitted in non-bearing or curtain walls, or where the tile is laid in bearing walls with the voids horizontal. The time which shall elapse between the finishing of the work and before any load is placed thereon shall be not less than seven (7) days.

Section 1195. (a) Columns of hollow block or terra cotta tile in which the cross sectional area of the open holes in each block does not exceed twenty (20) per cent. of the gross cross sectional area of such block, and when webs are spaced not more than four (4) inches apart, may be used for structural purposes; provided the length of such columns shall not exceed twelve (12) times the least diameter, and that they are properly bonded and reinforced and filled with concrete. An axial pressure of four hundred (400) pounds per square inch of area of webs and walls of the tile may be allowed on such columns.

(b) When used in columns tile must be set with the webs in direct line of pressure, and great care shall be used to flush the joints between webs full of mortar, by brushing a skim coat of mortar over the top of the tile and working same down between the tile.

(c) All terra cotta tile must be thoroughly wet before being used and when used in columns must be set on end with the voids running vertical and directly over each other, and with the webs in direct line of pressure.

(d) All work shall be set plumb, with uniform horizontal joints averaging three-eighths (3/8) inch in thickness. At least seven (7) days shall elapse between the finishing of the work and before any work is placed thereon.

Section 1196. Silos and storage bins of grain elevators and grain warehouses when required to be of fire-resistive construction may be constructed in cylindrical form of hollow block and terra cotta tile of such height, diameter and thickness as is allowed by safe engineering practice; provided that, the materials shall not be stressed in excess of the limits prescribed in this act for walls and columns.

#### Special Requirements for Hollow Block and Terra Cotta Tile Used in The Erection and Construction of Buildings and Structures Prior Erected.

Section 1197. Where hollow block and terra cotta tile has been used in the erection and construction of buildings and structures prior erected and constructed such buildings and structures shall be examined as often as may be necessary by the State Building Commissioner or Chief Building Inspector, and if the same shall be unsafe the State Building Commissioner or Chief Building Inspector shall make such rules and regulations governing the repair of such buildings as may be necessary to preserve life and property; pro-

vided that, all repairs to hollow block and terra cotta tile construction shall conform as nearly as possible to the requirements of this act relating to the use of hollow block and terra cotta tile in the erection and construction of buildings and structures hereafter erected and constructed.

## ARTICLE XVII.

### Special Requirements for Walls, Piers, Columns and Foundations Hereafter Erected and Constructed.

Section 1198. (a) The provisions of this article shall not be construed as exclusive of the other provisions of this act.

(b) In case of direct conflict with any of the other provisions of this act, the provisions of this article shall govern.

Section 1199. Ashlar facing of masonry walls shall be considered as a part of the wall for the purpose of carrying weight, only when every second course extends into the backing a distance equal to the last thickness of ashlar facing. In addition to such bond every stone in all courses shall be tied to the backing by two (2) iron anchors suitably protected against corrosion. No ashlar facing shall be less than four (4) inches thick, nor shall the height of any stone exceed five (5) times its thickness.

Section 1200. The brick used in any building shall be good, straight, hard burned brick. Soft brick may be used in any part of the building where they will not be exposed to the weather, but shall not be used in external or internal piers or bearing walls. When old bricks are used in any wall, only hard, well burned brick shall be used.

Section 1201. The bond of all brickwork shall be formed by laying one (1) course of headers for every six (6) courses of stretchers, provided in pressed-brick facing two (2) headers and a stretcher may be laid alternately in every seventh (7) course, or an equivalent number of full headers may be used in any other arrangement approved by the State Building Commissioner or Chief Building Inspector; provided further that, pressed-brick facing when not counted as part of the bearing wall, may be laid without header courses if properly anchored, subject to the approval of the State Building Commissioner or Chief Building Inspector. If metal ties are used the surface shall be suitably protected against corrosion and of a strength satisfactory to the State Building Commissioner or Chief Building Inspector.

Section 1202. All bricks shall be thoroughly drenched immediately before being laid, unless laid in freezing weather. All bricks



1. Every brick shall be cleaned before being laid.

2. Every brick used in all kinds of brick masonry shall

be of good quality. All lime used for mortar shall

be of good quality, and be free from clinkers

and shall be properly slaked before being used in ma

sonry. The mortar shall be composed of one (1) part of sl

aked lime and four (4) parts of clean, coarse s

and. The allowable pressure in pounds per sq

are of concrete masonry shall not exceed the

allowable pressure of the concrete.

3. The allowable pressure in pounds per square

foot for concrete masonry—granite and 1:3 Portland cement

mortar, shall be 1,000 pounds.

4. The allowable pressure in pounds per square

foot for concrete masonry—limestone and 1:3 Portland cement

mortar, shall be 1,000 pounds.

5. The allowable pressure in pounds per square

foot for concrete masonry—sandstone and 1:3 Portland cement

mortar, shall be 1,000 pounds.

6. The allowable pressure in pounds per square

foot for concrete rubble masonry and 1:3 Portland cement mortar,

shall be 1,000 pounds.

7. The allowable pressure in pounds per square

foot for concrete rubble masonry and 1:3 Portland cement mortar,

shall be 1,000 pounds.

8. The allowable pressure in pounds per square

foot for concrete concrete, 1:2:4 mixture, shall be 1,000 pounds.

9. The allowable pressure in pounds per square

foot for concrete concrete, 1:2½:5 mixture, shall be 1,000 pounds.

10. The allowable pressure in pounds per square

foot for first class paving brick and 1:3 Portland cement mortar,

shall be 1,000 pounds.

11. The allowable pressure in pounds per square

foot for first class sewer brick and 1:3 Portland cement mortar,

shall be 1,000 pounds.

12. The allowable pressure in pounds per square

foot for first class common brick and 1:3 Portland cement mor-

tar, shall be 1,000 pounds.

13. The allowable pressure in pounds per square

foot for ordinary common brick and 1:3 Portland cement mortar,

shall be 1,000 pounds.

14. The allowable pressure in pounds per square

foot for first class paving brick and mortar consisting of one (1)

part Portland cement and one (1) part lime paste, and

two (2) parts sand, shall be 1,000 pounds.

15. The allowable pressure in pounds per square

foot for first class sewer brick and mortar and Portland cement

as in No. 12, shall be 1,000 pounds.

16. The allowable pressure in pounds per square

foot for first class common brick and mortar as in No. 12, shall be 1,000 pounds.

17. The allowable pressure in pounds per square

foot for ordinary common brick and mortar as in No. 12, shall be 1,000 pounds.

18. The allowable pressure in pounds per square

foot for first class common brick and mortar as in No. 12, shall be 1,000 pounds.

19. The allowable pressure in pounds per square

foot for ordinary common brick and mortar as in No. 12, shall be 1,000 pounds.

(b) In every isolated pier of stone, brick or concrete, and in every pier where terra cotta columns are hereinafter permitted, the ratio of the least lateral dimension to the height shall not exceed five (5) to one (1), unless the allowable pressure per square inch, as hereinbefore prescribed for the material of which the pier is built, is reduced five (5) per cent for each unit of increase in this ratio; provided further that the ratio of the least lateral dimension to the height shall in no case exceed twelve (12).

Section 1204. (a) The walls, piers and columns of all buildings shall be proportioned to carry the full dead load and the full live load.

load; except that in buildings of more than five (5) stories in height the live load for the roof and topmost story shall be calculated in full, but for the lower stories a reduction of the live load will be permitted as follows: For the story next below the topmost story a reduction of five (5) per cent. of the calculated live load will be allowed; for the next story below ten (10) per cent. and so on by increments of five (5) per cent. per story until the reduction amounts to fifty (50) per cent. when it shall be taken at fifty (50) per cent. for all floors below. The aforesaid reductions shall not be allowed in the case of buildings upon which a live load of more than one hundred and fifty (150) pounds per square foot has been assumed. The above requirements shall apply to basement walls, piers and columns.

(b) The foundations of walls, piers and columns shall be proportioned to carry the entire dead load, and the above percentage of the live loads. Footings when resting on pile foundations shall be designed for concentrated loads due to the pile reactions and not as distributing the column loads uniformly over the area of the base of the footings. No part of the load to be carried shall be figured on the soil surrounding the pile.

(c) In all foundations any eccentric loading shall be fully provided for.

Section 1205. (a) All exterior and interior bearing walls of brick, stone or solid concrete, except in dwellings and in tenement houses not more than two (2) stories in height and in lodging houses and rooming houses not more than two (2) stories in height as hereinafter provided, shall have a minimum thickness in accordance with the following schedule:

1. Walls above the basement:

For one (1) and two (2) story buildings, .....13 inches.

For three (3) story buildings:

Second and third stories, .....13 inches.

First story, .....18 inches.

For four (4) story buildings:

Fourth story, .....13 inches.

Third story, .....13 inches.

Second story, .....18 inches.

First story, .....18 inches.

For more than four (4) story buildings:

Two highest stories, .....13 inches.

Two (2) next succeeding stories, .....18 inches.

Two (2) next succeeding stories, .....22 inches.

Two (2) next succeeding stories, .....26 inches.

Two (2) next succeeding stores, .....30 inches.



(b) All walls shall be corbelled out four (4) inches flush with the lower surface of pockets or be stirruped; except that, where the wall is changed in thickness the shelf formed thereby may be counted as part of the corbelling.

(c) Where wood furring is used the corbelling or shelf shall be extended up between the joists to the top of the joists, and if not sufficient to make a projection of two (2) inches beyond the furring shall be battered out at least two (2) courses of brick or equivalent material.

Section 1213. (a) Where masonry buttresses, piers or pilasters are employed on either or both sides of a wall then said walls may be reduced in thickness by one-half ( $\frac{1}{2}$ ) of the projection or projections of buttresses, piers or pilasters. The reduction in thicknesses may be made throughout the height of the wall, except that, no thirteen (13) inch wall shall be higher than thirty (30) feet, and no eighteen (18) inch wall shall be higher than fifty (50) feet. The stress of the brick work in any part of such wall shall not exceed the stress per square inch allowed by this act on the kind of masonry used. Buttresses, piers or pilasters shall be at least one-tenth (1-10) as wide as the spacing between them.

(b) Walls reduced in thickness under the provisions of this section shall be so reduced that they will be not less than thirteen (13) inches in thickness where buttresses, piers or pilasters are more than eighteen (18) feet apart; nor less than eighteen (18) inches where buttresses, piers or pilasters are more than twenty-four (24) feet apart; nor less than twenty-two (22) inches where buttresses, piers or pilasters are more than thirty (30) feet apart.

(c) Where buttresses are used they shall be so placed that the principal girders and trusses shall rest upon them.

Section 1214. (a) Opposite exterior bearing walls in all buildings shall be tied together with iron or steel anchors securely fastened to the ends of continuous joists, beams or girders or with continuous tie rods secured to the outer faces of the side walls, placed at a distance of seven (7) feet apart along the walls. Where said joists, beams or girders are of such length that it is not practicable to make them of one (1) piece then the several pieces shall be joined at each splice or joint by tie plates or tie bars or metal connections of the same strength as the anchors. Such anchor rods or bolts shall be not less than three-quarters ( $\frac{3}{4}$ ) inch in diameter. The spikes, bolts or screws securing such anchors and tie plates shall be of such number and size as to transmit the tensile strength which the anchor is capable of resisting into the joists or girders to which said anchors are connected. All pin anchors shall extend at least eight (8) inches into the supporting masonry.

pense of such shoring up shall be borne by the owner of such walls to a depth of fourteen (14) feet. Where it is necessary for the construction of adjoining foundations to excavate below the depth of fourteen (14) feet, the expense of all shoring below a depth of fourteen (14) feet shall be borne by the person making such excavations.

Section 1220. The person causing any excavation for a building to be made shall have the same properly guarded and protected. Wherever necessary he shall at his own expense properly sheath pile and erect masonry or steel construction or a sufficient retaining wall to permanently support the adjoining earth. Such retaining wall shall extend from full depth of excavation to the level of the adjoining earth, and shall be properly coped.

Section 1221. Before any excavation for foundations for any building or structure hereafter erected is made it shall be the duty of the person about to make such excavation to notify the State Building Commissioner or Chief Building Inspector. Such State Building Commissioner or Chief Building Inspector shall immediately inspect the premises and order such steps to be taken to preserve or to protect and support adjoining earth, buildings and structures as, in his opinion, may be necessary. No excavations will be permitted to be made unless the orders of the State Building Commissioner or Chief Building Inspector are strictly executed.

Section 1222. All foundations hereafter constructed shall be constructed of rubble or dimension stone or other approved aggregate, plain or concrete vitrified brick, steel beams imbedded in concrete and piles capped with timber grillage, concrete, approved stone or capped with any other approved combination of these materials. All masonry foundations shall be laid in Portland cement mortar.

Section 1223. Foundations hereafter constructed of stone, brick or plain concrete shall not be built with a batter greater than six (6) inches horizontal to one (1) foot vertical; and if stepped out, no step shall be wider than one-half ( $\frac{1}{2}$ ) its depth.

Section 1224. Pile foundations hereafter constructed shall be either of wood or concrete piles. The piles shall be so arranged in the foundations that they will be equally loaded.

Section 1225. (a) Plans for pile foundations hereafter constructed shall be submitted to the State Building Commissioner or Chief Building Inspector for approval, and shall specify the dimensions and spacing of piles.

(b) The State Building Commissioner or Chief Building Inspector may require auger borings to be made to determine the condition of the rock and the character of the underlying strata.



(c) Footings when resting on pile foundations shall be designed for concentrated loads due to the pile reactions and not as distributing the column loads uniformly over the area of the base of the footings. No part of the load to be carried shall be figured on the soil surrounding the pile.

(d) The center of gravity of a pile foundation shall coincide with the center of gravity line of the load or loads which it carries.

(e) Piles shall be driven to a solid bearing if practicable, but shall not be driven so hard as to impair their strength. The safe load on a pile shall be determined by and shall not exceed the following formulae:

For a pile driven with a steam hammer,

$$P \text{ equals } \frac{2 w H}{G-0.1}$$

For a pile driven with a drop hammer,

$$P \text{ equals } \frac{2 w H}{G-1.0}$$

In which formulae:

G—penetration in inches under last blow.

H—fall of hammer in feet.

W—weight of hammer in pounds.

P—safe load in pounds.

(f) Piles may be sunk with a water jet, but they shall be struck a few final blows with a hammer, and their sustaining power shall be determined as provided for in this act.

(g) For walls less than fifty (50) feet in height a single row of piles may be used, if other conditions of stability are complied with. For walls fifty (50) to seventy (70) feet in height two (2) rows shall be used. For walls over seventy (70) feet in height not less than three (3) rows of piles shall be used. However, piles may be placed in groups of two (2) or more and suitably connected, and when so approved by the State Building Commissioner or Chief Building Inspector.

(h) Piles shall be not less than six (6) inches in diameter at the small end nor less than ten (10) inches at the butt.

(i) Wood piles over twenty-five (25) feet long shall be at least twelve (12) inches in diameter at the butt.

(j) For foundations constructed on concrete piles, or where concrete piles are used, the concrete piles shall be imbedded in concrete footings to such an extent and so proportioned that in the transmission of the load from the structure to the pile, the stresses in the materials shall not exceed those described in this act, and if subjected to lateral strains, be reinforced to resist such bending with not less

than eight-tenths (0.8) per cent. of vertical reinforcing, said reinforcement projecting into the footings where practicable.

(k) The tops of all wood piles must be cut off below the permanent water line, if in sand or gravel; but in damp, impervious clay they may be cut off above the permanent water line if thoroughly sealed from contact with the air.

(l) All piles shall be capped with concrete, timber grillage, or approved stone set in Portland cement mortar. If concrete is used it shall be deposited to a depth of not less than twelve (12) inches over the top of the piles and shall fill all spaces between the piles to a depth of not less than six (6) inches below the tops, and shall extend one (1) foot outside of the piles. If timber grillage is used, it shall consist of at least two (2) courses, of timber, not less than six (6) inches thick, firmly bolted together, the upper course forming a solid floor and being laid in opposite direction to the lower course. Said grillage timber shall not be used unless it will be completely and permanently immersed in water and shall be treated with preservative subject to the approval of the State Building Commissioner or Chief Building Inspector.

## ARTICLE XVIII.

### Special Requirements for the Use of Timber in Buildings and Structures Hereafter Erected and Constructed.

Section 1226. Timber used for building purposes shall be sound, well manufactured, close grained, free from wind shakes or from dead, loose, decayed, encased or pitched knots, or knots and other defects that will materially impair its strength and durability.

The safe allowable working unit stresses in pounds per square inch on actual sections for timber shall be as follows:

Kind of Timber.	Tension.	
	With grain.	Across grain.
Factor of Safety.	Ten.	Ten.
White oak, .....	1,200	300
White pine, .....	700	50
Southern long-leaf pine, .....	1,200	60
Douglas fir, .....	800	50
Short-leaf yellow pine, .....	900	50
Red pine or (Norway pine), .....	800	50
Spruce and eastern fir, .....	300	50
Hemlock, .....	600	50
Cypress, .....	600	50
Cedar, .....	700	50
Chestnut, .....	850	50
California red wood, .....	700	50



Kind of Timber.	Compression.		
	With Grain.		Across Grain.
	End Bearing.	Columns under 15 dias.	
Factor of Safety.	Five.	Five.	Four.
White oak, .....	1,400	1,000	600
White pine, .....	1,100	800	300
Southern long-leaf pine, .....	1,400	1,000	350
Douglas fir, .....	1,200	900	300
Short-leaf yellow pine, .....	1,100	800	250
Red pine or Norway pine, .....	1,000	750	200
Spruce and eastern fir, .....	1,200	900	200
Hemlock, .....	1,100	800	200
Cypress, .....	1,000	750	150
Cedar, .....	1,100	750	200
Chestnut, .....	.....	800	200
California red wood, .....	.....	800	150

Kind of Timber.	Transverse.	Shearing.	
	Extreme fibre stress.	With grain.	Across grain.
Factor of Safety.	Six.	Four.	Four.
White oak, .....	1,300	200	1,000
White pine, .....	700	100	500
Southern long-leaf pine, .....	1,300	150	1,200
Douglas fir, .....	800	130	.....
Short-leaf yellow pine, .....	1,000	100	1,000
Red pine or (Norway pine), .....	800	.....	.....
Spruce and eastern fir, .....	700	100	700
Hemlock, .....	600	100	600
Cypress, .....	800	.....	.....
Cedar, .....	700	100	400
Chestnut, .....	800	150	500
California red wood, .....	750	100	.....

Section 1226½. (a) The unit stress on timber posts shall comply with the formula :

$$C \left( 1 - \frac{L}{80 D} \right)$$

in which

C equals compressive strength of timber with the grain as given in table.

L equals length in inches.

D equals least diameter in inches.

(b) The maximum length of a timber post shall not exceed thirty (30) diameters.

(c) Timber posts shall not be used in buildings of greater height than twice the width of the building nor in buildings over one hundred (100) feet in height.

(d) The maximum deflection of any wood joint, beam or girder supporting a plastered ceiling shall not exceed one-third hundred and sixtieth (1-360) part of its clear span.

(e) Where deemed necessary in the opinion of the State Building Commissioner or Chief Building Inspector all timber hereafter used in the construction of buildings and structures, shall be treated with an approved preservative.

Section 1227. (a) The terms "long-leaf" and "short-leaf" yellow pine are here used to designate quality, not botanical species.

(b) Under "long-leaf" yellow pine, all yellow pine is included in which there are not less than 12 annular rings to an inch.

(c) "Short-leaf" yellow pine includes all yellow pine in which there are less than 12 annular rings to an inch.

(d) Douglas Fir includes the timber known likewise as yellow fir, silver fir, western fir, Washington fir, Oregon fir, Puget Sound fir or Portland fir, Northwest or West coast fir.

Section 1228. (a) Wooden beams should be of such section, that the maximum fibre stress due to transverse bending, the maximum horizontal shear, and the compression across the grain at the end joints, do not exceed the allowable stresses as set forth in table Safe Allowable Unit Stresses in Timber.

(b) Wooden beams should be braced laterally to prevent buckling when the ratio of length to breadth exceeds twenty, (20) or designed with a reduced fiber stress from that allowable where this ratio is exceeded. The percentage of reduction should be as follows:

Ratio of length to width,.....	20 to 30	30 to 40	40 to 50	50 to 60
Percentage of reduction, .....	25	34	42	50

(c) Wooden beams should carry the load without deflecting beyond the limit fixed by the use to which the structure is applied; this limit should not be taken at one-thirtieth (1-30) inch per foot of span for plastered ceilings.

(d) For figuring the safe uniformly distributed loads on rectangular wooden beams when the length of span is 12 or more times the depth of the beam, the formulae  $W = \frac{b d^2 S}{9}$  should be used. For

wooden beams less than 12'-0" span, use  $W = \frac{4 b d S s}{3}$ . For determining the safe load on wooden beams so that the deflection will not exceed one three hundred and sixtieth (1-360) of span use  $W = \frac{E d^3}{8100 l^2}$

the above formulae.



W=total load in pounds uniformly distributed.

b=breadth in inches.

d=depth in inches.

l=span.

S=fiber stress in pounds.

Ss=horizontal shearing stress along neutral axis=  $\frac{S}{12}$

12

#### Special Requirements for the Use of Timber in Buildings and Structures Prior Erected and Constructed.

Section 1229. Where wood and timber has been used in buildings prior erected, it shall be the duty of the State Building Commissioner or Chief Building Inspector, as often as may be necessary, to examine such buildings, and if they shall be unsafe the State Building Commissioner or Chief Building Inspector shall make such rules and regulations governing the repair of such buildings as may be necessary to preserve life and property; provided that, where prior erected buildings are repaired the provisions of this act relating to timber construction of buildings hereafter erected shall be conformed to as nearly as possible.

#### ARTICLE XIX.

#### Special Requirements for Fire-resistive Construction in Buildings and Structures Hereafter Erected.

Section 1230. Where not otherwise provided in this act it shall be the duty of the State Building Commissioner to formulate special requirements covering details and materials for fire-resistive construction in buildings and structures hereafter erected.

Section 1231. Such requirements and details shall conform as nearly as possible to the requirements and details prepared, from time to time, by the United States Bureau of Standards.

#### Special Requirements for Fire-resistive Construction in Buildings and Structures Prior Erected.

Section 1232. Wherever in this act buildings and structures prior erected and constructed are required to be of fire-resistive construction it shall be the duty of the State Building Commissioner, and Chief Building Inspector by and with the consent of the State Building Commissioner, to formulate such special rules and regulations as will bring such buildings and structures as nearly as possible up to the requirements and details for fire-resistive construction of buildings and structures hereafter constructed.

Section 1233. Such requirements and details shall conform as nearly as possible to the requirements and details prepared, from time to time, by the United States Bureau of Standards.

#### ARTICLE XX.

##### Special Requirements for Mill Construction in Buildings and Structures Hereafter Erected.

Section 1234. Where not otherwise provided in this act it shall be the duty of the State Building Commissioner to formulate special requirements covering details and materials for mill construction in buildings and structures hereafter erected.

Section 1235. Such requirements and details shall conform as nearly as possible to the requirements and details prepared, from time to time, by the United States Bureau of Standards.

##### Special Requirements for Mill Construction in Buildings and Structures Prior Erected.

Section 1236. Wherever in this act buildings and structures prior erected and constructed are required to be of mill construction it shall be the duty of the State Building Commissioner, and Chief Building Inspector by and with the consent of the State Building Commissioner, to formulate such special rules and regulations as will bring such buildings and structures as nearly as possible up to the requirements and details for mill construction of buildings and structures hereafter constructed.

Section 1237. Such requirements and details shall conform as nearly as possible to the requirements and details prepared, from time to time, by the United States Bureau of Standards.

#### ARTICLE XXI.

##### Special Requirements for Ordinary Construction in Buildings and Structures Hereafter Erected.

Section 1238. Where not otherwise provided in this act it shall be the duty of the State Building Commissioner to formulate special requirements covering details and materials for ordinary construction in buildings and structures hereafter erected.

Section 1239. Such requirements and details shall conform as nearly as possible to the requirements and details prepared, from time to time, by the United States Bureau of Standards.



W=total load in pounds uniformly distributed.

b=breadth in inches.

d=depth in inches.

l=span.

S=fiber stress in pounds.

Ss=horizontal shearing stress along neutral axis=  $\frac{S}{12}$

#### Special Requirements for the Use of Timber in Buildings and Structures Prior Erected and Constructed.

Section 1229. Where wood and timber has been used in buildings prior erected, it shall be the duty of the State Building Commissioner or Chief Building Inspector, as often as may be necessary, to examine such buildings, and if they shall be unsafe the State Building Commissioner or Chief Building Inspector shall make such rules and regulations governing the repair of such buildings as may be necessary to preserve life and property; provided that, where prior erected buildings are repaired the provisions of this act relating to timber construction of buildings hereafter erected shall be conformed to as nearly as possible.

#### ARTICLE XIX.

#### Special Requirements for Fire-resistive Construction in Buildings and Structures Hereafter Erected.

Section 1230. Where not otherwise provided in this act it shall be the duty of the State Building Commissioner to formulate special requirements covering details and materials for fire-resistive construction in buildings and structures hereafter erected.

Section 1231. Such requirements and details shall conform as nearly as possible to the requirements and details prepared, from time to time, by the United States Bureau of Standards.

#### Special Requirements for Fire-resistive Construction in Buildings and Structures Prior Erected.

Section 1232. Wherever in this act buildings and structures prior erected and constructed are required to be of fire-resistive construction it shall be the duty of the State Building Commissioner, and Chief Building Inspector by and with the consent of the State Building Commissioner, to formulate such special rules and regulations as will bring such buildings and structures as nearly as possible up to the requirements and details for fire-resistive construction of buildings and structures hereafter constructed.

Section 1233. Such requirements and details shall conform as nearly as possible to the requirements and details prepared, from time to time, by the United States Bureau of Standards.

#### ARTICLE XX.

##### Special Requirements for Mill Construction in Buildings and Structures Hereafter Erected.

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Section 1235. Such requirements and details shall conform as nearly as possible to the requirements and details prepared, from time to time, by the United States Bureau of Standards.

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Section 1236. Wherever in this act buildings and structures prior erected and constructed are required to be of mill construction it shall be the duty of the State Building Commissioner, and Chief Building Inspector by and with the consent of the State Building Commissioner, to formulate such special rules and regulations as will bring such buildings and structures as nearly as possible up to the requirements and details for mill construction of buildings and structures hereafter constructed.

Section 1237. Such requirements and details shall conform as nearly as possible to the requirements and details prepared, from time to time, by the United States Bureau of Standards.

#### ARTICLE XXI.

##### Special Requirements for Ordinary Construction in Buildings and Structures Hereafter Erected.

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Section 1239. Such requirements and details shall conform as nearly as possible to the requirements and details prepared, from time to time, by the United States Bureau of Standards.



cable and so as to give sufficient means of egress from every building and structure and from every floor of every building.

(b) Where stairways are constructed in buildings prior erected they shall be constructed as nearly as possible in conformity with the requirements of this act relating to stairways constructed in buildings hereafter erected.

(c) In addition the State Building Commissioner or Chief Building Inspector may require such alterations in stairways in buildings and structures prior erected and constructed as may be deemed necessary to give proper and sufficient means of egress from every building and structure and as may be necessary to protect life.

#### ARTICLE XXIV.

##### Special Requirements for Fire Escapes, Standpipes and Automatic Sprinklers Hereafter Erected and Constructed.

Section 1252. All buildings hereafter or prior erected two (2) stories or more in height which do not have two (2) independent means of egress from every floor where a fire escape is not expressly required in this act, shall have a fire escape as may be required by the State Building Commissioner or Chief Building Inspector.

Section 1253. Stairway fire escapes hereafter erected and constructed shall have platforms and stairways constructed as follows:

(a) The platforms shall consist of iron or steel balconies not less than four (4) feet in width, the length of the platform to be dependent upon the size of the building and the number of its occupants. The length of such platform shall be approved length, which shall extend in front of, and not less than nine (9) inches beyond at least two (2) windows, except in the case of a doorway leading from the floor level of the building to the floor level of the platform, in which case such doorway opening will suffice.

(b) Each platform shall be provided with a landing, at the head and foot of each stairway of not less than twenty-four (24) inches. The floors of balconies must be of wrought iron or steel, one and one-half ( $1\frac{1}{2}$ ) inches by five-sixteenths ( $\frac{5}{16}$ ) inch slats, or channel irons not less than one-quarter ( $\frac{1}{4}$ ) inch thick in their least section, not more than one and one-quarter ( $1\frac{1}{4}$ ) inches apart, and be securely riveted to frame and brackets.

(c) Outside angle frame to be not less than two and one-quarter ( $2\frac{1}{4}$ ) inch angle iron. Where slats of platform run at right angles to wall, wall angle shall be riveted to clips made of angle iron four (4) inches in length let into wall three (3) inches. All stair openings to be sufficient to provide clear headway, but that of the top platform to be no longer than sufficient to provide clear headway.

(d) The outside top railing to extend around the entire length of the platform, and through the wall at each end, and to be properly secured by nuts and washers, or otherwise equally well braced and bolted. The top rail of the balcony must be not less than one (1) inch, inside diameter, pipe iron, or material equally as strong. The bottom rail must be not less than one (1) inch, inside diameter, pipe iron or material equally as strong, well leaded into the wall. The standards must be not less than one (1) inch, inside diameter, pipe iron, or material equally as strong, spaced not more than three (3) feet apart and securely braced by means of outside braces, which are to be securely fastened to the brackets of platforms, which brackets shall extend at least six (6) inches beyond railing, and must be securely connected with top and bottom rail and platform frame.

(e) Standards must also be securely braced by means of outside brackets. Railings in all cases to extend around the stairway openings and be continuous down the stairway. The height of the railings to be not less than three (3) feet.

Section 1254. The treads of stairways shall be not less than eight (8) inches wide, and the rise not more than eight (8) inches. The stairs in all cases to be not less than twenty-four (24) inches wide, and the strings or horses to be not less than three (3) inch channels of iron or steel, or other shape equally as strong, and to rest upon and be fastened to a bracket; said bracket to be fastened through the wall as otherwise provided for brackets. The strings or horses to be also securely fastened to the balcony at the top. The steps in all cases to be double riveted or bolted to the strings or horses.

Section 1255. (a) Brackets must be not less than two and one-quarter ( $2\frac{1}{4}$ ) inch angle iron or steel, or materially equally as strong, not more than three (3) feet apart, braced by means of not less than one (1) inch square, or one and one-quarter inch round iron, let into the wall at least four (4) inches, with shoulder on brace, and three (3) inches by three (3) inch iron washers between shoulder and wall, and to extend down the wall four (4) feet from the top of the bracket, and out on the bracket-angle three (3) feet from the wall. In all cases the bracket angle directly under the balcony must be secured to the wall by means of bolts not less than three-quarter ( $\frac{3}{4}$ ) inch thick in diameter passing through the wall, and four (4) inch washers. There must be also a two and one-quarter ( $2\frac{1}{4}$ ) inch angle iron between brackets riveted to the balcony angles for the slats to rest upon.

(b) Whenever the bottom balcony is supported by means of suspension rods (riveted or bolted) to the balcony above, the brackets (of the above balcony) shall be increased in size to meet the increased strain occasioned thereby. The bottom balcony to have a



cable and  
ing and  
(b) as the stairway, to be hinged and  
(c) counterweight: Provided, That when the above  
they are impracticable, the State Building  
the Chief Building Inspector may allow ladder to be  
buildings and chain, said weight, when practi-  
(d) platform railing, and rest upon platform,  
ing a metal basket or bracket support sufficient  
to carry the counterbalance weight. The form of  
to the approval of the State Building Com-  
the Chief Building Inspector. Provided further, That the

shall be prohibited.

shall be provided, when in the judgment of the  
Commissioner or Chief Building Inspector they are  
In all cases bolts, rivets, and other material used  
to develop the full strength of the mem-  
All parts of such fire escape must receive  
two coats of paint—one (1) coat in the shop and

120. Tower fire escapes shall be constructed as fol-  
lowing: (a) They shall be divided from the building by and complete-  
ly with brick walls or with walls built of approved fire-resistive  
walls shall be built solidly from the foundation to  
the roof of said tower shall be built of approved fire-resistive

The stairs of said tower shall be iron or other approved fire-  
resistive materials. The rise of said stairs shall be not more than  
eight (8) inches and the tread not less than nine (9) inches. The  
entrance to said tower shall be by means of an outside balcony or  
a combustible vestibule, of which one (1) side shall be entirely  
open and extend from the top of floor to under side of ceiling and the  
width of the tower. The said open side to face a street or such  
open space as provided for exit of said tower.

(c) There shall be a brick wall, or other wall of approved fire-  
resistive material separating the tower from the vestibule. The  
opening into tower from said vestibule to be not over seven (7) feet  
in height. The floor, ceiling and sides of said vestibule to be of ap-  
proved fire-resistive materials.

(d) The rails enclosing the side facing the open space or street to  
be not over four (4) feet high and not less than three (3) feet. Open  
space between standards or grille work shall not be less than three  
inches in their least dimension.

(e) The entrance to the tower from the building shall be through  
the vestibule.

(g) Towers that have not the fire-proof vestibule shall have outside balconies; floors of balconies to be solid, and built of approved fire-resistive materials and be of sufficient strength to carry the imposed weights.

(h) The rails around said balconies shall be not over four (4) feet in height nor less than three (3) feet and may be enclosed or open.

Section 1257. (a) Tower fire escapes shall at all times be adequately lighted either by artificial light or by daylight. For the purpose of admitting daylight a window opening not greater than two (2) square feet in area will be permitted at each landing; provided that, it faces on a street and that it is covered by wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick set in fixed metal sash, flush with the inside face of the wall.

(b) No other openings will be permitted except for entrance and exit doors which shall be covered by approved self-closing fire doors.

(c) At the ground level exit must be had directly to a street or a public alley not less than twenty (20) feet wide.

(d) All tower fire escapes shall have a door opening onto the roof.

Section 1258. (a) In every building hereafter erected more than four (4) stories or forty-eight (48) feet in height and not more than one hundred (100) feet in height there shall be at least one (1) vertical standpipe not less than four (4) inches in diameter.

(b) Every such building more than one hundred (100) feet in height shall have a vertical standpipe not less than six (6) inches in diameter.

(c) There shall be at least one (1) such standpipe for every one hundred (100) feet or fractional part thereof of frontage and depth and at least one (1) such standpipe for every section of any such building separated by fire walls. Such standpipe shall be so located that all parts of every floor area may be reached with a hose not longer than fifty (50) feet. Except as otherwise provided in this act, wherever possible standpipes shall be located at or near enclosed stairways and at all times as near stairways as possible.

Section 1259. (a) All standpipes hereafter erected and installed of wrought iron or steel galvanized, together with fittings and connections shall be of a strength to withstand a water pressure of at least three hundred (300) pounds per square inch without leaking at joints, valves or fittings when installed and ready for service.

(b) Where there is more than one (1) standpipe in any building all standpipes may be constructed at their bases by pipes of size equal to that of the largest standpipe.

Section 1260. All standpipes hereafter erected and installed shall extend from the cellar to and through the roof. In the cellar, in the



basement and in each story there shall be a hose connection for such standpipe located about four (4) feet above the floor and provided with an approved straightway composition gate valve. Above the roof there shall be a similar hose connection, except that the valve controlling the same shall be located under the roof and arranged so as to be operated both from above and below the roof. In addition each roof connection shall be provided with a three-quarters ( $\frac{3}{4}$ ) inch drain pipe and valve.

Section 1261. (a) Attached to each outlet of all standpipes hereafter erected and installed there shall be an approved hose not more than fifty (50) feet in length. All hose shall be two and one-half ( $2\frac{1}{2}$ ) inches in diameter with a suitable branch pipe with not less than three-quarters ( $\frac{3}{4}$ ) inch nozzle, and provided with standard couplings at each end. All couplings shall be of same hose thread that in use by the local fire department. At each outlet of every standpipe there shall be at least two (2) hose spanners.

(b) All standpipes shall have a pressure gauge at each outlet.

Section 1262. All standpipes hereafter erected and installed shall be provided with a Siamese steamer connection at the front. Such connection shall be about one (1) foot above the sidewalk level. Where any building fronts on two (2) or more streets a similar connection shall be provided at each street front. Inlet pipes from such steamer connections to standpipes shall have diameters equal to that of the largest standpipe. Such connections shall be provided with check valves in the "Y" and with substantial caps. The thread on such connections shall be uniform with that used by the local fire department. Steamer connection fitting shall be adjusted at an angle of forty-five (45) degrees. An iron plate with raised lettering shall be securely attached to the wall, reading, "To Standpipe". Every inlet pipe shall have a straight way check valve, but not a gate valve, in a horizontal section inside the building. A drip pipe with valve shall be placed between such check valve and steamer connection.

Section 1263. (a) All standpipes hereafter erected and installed shall at all times be filled with water at a pressure of at least thirty (30) pounds at every outlet.

(b) Standpipes may get their supply from the public water system provided the pressure herein required is maintained, otherwise an approved automatic fire pump or gravity or pressure tank of approved capacity shall be provided.

(c) Where tanks are used as a source of supply they shall be filled by a separate pipe and not through the standpipe, and there shall be a straight-way check valve in a horizontal section of pipe.

Section 1264. Where automatic fire pumps are used the boilers upon which pumps depend for steam shall be so arranged by drainage or otherwise that the flooding of fires under the same will be impossible.

Section 1265. In every building exceeding one hundred (100) feet in height at least one (1) passenger elevator shall be kept in readiness for immediate use by the fire department during all hours of the night and day including holidays and Sundays.

Section 1266. It shall be the duty of the State Building Commissioner or Chief Building Inspector to make uniform rules and regulations governing the construction and installation of automatic sprinklers and such State Building Commissioner or Chief Building Inspector by and with the consent and approval of the State Building Commissioner shall, from time to time as often as may be necessary in his judgment make such changes in such rules and regulations as may be necessary to bring the requirements for automatic sprinklers up to the most modern practice. Such rules and regulations shall be reduced to writing and kept on file for public inspection. No automatic sprinklers shall be installed except in accordance with such rules and regulations.

**Special Requirements for Fire Escapes, Standpipes and Automatic Sprinklers Prior Erected and Installed.**

Section 1267. Fire escapes, constructed and installed prior to the passage of this act, in conformity to law, shall be permitted to remain subject to the approval of the State Building Commissioner or Chief Building Inspector in necessary cases, and except where in conflict with the express provisions of this act.

Section 1268. Where it is necessary to repair, alter or reconstruct any fire escape, prior erected and installed the same shall be repaired, altered or reconstructed as nearly as possible in conformity to the provisions of this act for the construction and installation of fire escapes, hereafter erected and installed.

Section 1269. Wherever possible the State Building Commissioner and the Chief Building Inspector by and with the consent of the State Building Commissioner shall promulgate rules and regulations governing the maintenance and the repair, alteration and reconstruction of fire escapes, prior erected and installed.

Section 1270. (a) Every building erected prior more than four (4) stories or forty-eight (48) feet in height and not more than one hundred (100) feet in height shall have at least one (1) vertical standpipe not less than four (4) inches in diameter, except that



where any such building already has a three (3) inch or larger standpipe it will be permitted to remain, provided that it is capable of withstanding a least water pressure of three hundred (300) pounds per square inch without leaking at joints, valves or fittings, and provided that it is approved by the State Building Commissioner or Chief Building Inspector.

(b) Every such building more than one hundred (100) feet in height shall have at least one vertical standpipe, not less than six (6) inches in diameter, except that where any such building already has a four (4) inch or larger standpipe it will be permitted to remain, provided that it is capable of withstanding a least water pressure of three hundred (300) pounds per square inch without leaking at joints, valves or fittings, and provided that it is approved by the State Building Commissioner or Chief Building Inspector.

(c) All such standpipes shall be constructed and installed as provided in this act for standpipes constructed and installed in buildings hereafter erected.

(d) There shall be at least one (1) such standpipe for every one hundred (100) feet or fractional part thereof of frontage and depth of such building, and shall be so located that all parts of every floor of such building can be reached with a hose not longer than fifty (50) feet.

Section 1271. Wherever it may become necessary to make alterations or repairs to automatic sprinklers or apparatus prior constructed and installed such alterations and repairs shall be made in accordance with the rules and regulations promulgated by the State Building Commissioner or Chief Building Inspector for automatic sprinklers and apparatus hereafter constructed and installed; except that, the State Building Commissioner or Chief Building Inspector may, in his discretion, permit reasonable deviations therefrom, where from the nature of the case a strict compliance with such rules and regulations would be impossible or impracticable.

## ARTICLE XXV.

### Special Requirements for Elevators Hereafter Constructed and Installed.

Section 1272. In elevators hereafter constructed and installed, whether used as passenger elevators or freight elevators, all car safety catches, speed governors, brakes, bumpers, air cushions and limit switches shall be tested while the elevator car is in motion carrying its maximum allowable load when deemed necessary by the State Building Commissioner or Chief Building Inspector.

Section 1273. When any elevator hereafter constructed and installed shall have been finally completed, the owner, builder or contractor shall file with the State Building Commissioner or Chief Building Inspector notice in writing that such elevator has been constructed and installed in accordance with the plans as approved.

Section 1274. Any elevator may be used during the construction of a building provided a temporary permit has previously been granted by the State Building Commissioner or Chief Building Inspector.

Section 1275. (a) The State Building Commissioner or Chief Building Inspector may from time to time appoint approved elevator inspectors who shall be men versed in elevator construction and equipment.

(b) The State Building Commissioner or Chief Building Inspector shall keep on file for public inspection a list showing the names and addresses of all elevator inspectors approved by them.

Section 1276. (a) Elevators hereafter constructed and installed, operated by mechanical power, except those of the sidewalk type, shall be inspected at least once in every three (3) months either by the State Building Commissioner or Chief Building Inspector or by an elevator inspector approved by the State Building Commissioner or Chief Building Inspector.

(b) Such elevators operated by hand power and every sidewalk elevator shall be inspected at least once in every six (6) months either by the State Building Commissioner or Chief Building Inspector or by an elevator inspector approved by the State Building Commissioner or Chief Building Inspector.

(c) If all the provisions of this act are fully complied with it shall be the duty of every elevator inspector upon making inspection to at once furnish the owner or other authorized person with a certificate which shall be posted in a conspicuous place in the elevator car. Such elevator inspector shall at the same time file a duplicate certificate with the State Building Commissioner or Chief Building Inspector. No elevator shall be operated unless such certificate is so posted and has not yet expired, except as otherwise provided in this act.

(d) Such certificate shall show the date of inspection, the date of the expiration of the certificate, the number of the elevator, the allowable safe load in pounds, and in addition, if a passenger elevator, the number of persons permitted to be carried. Such certificate shall also contain the statement that elevators may not be lawfully operated beyond the date of expiration thereof as shown thereon, and such certificate shall be signed by the elevator inspector and shall



show that such elevator inspector is either approved by the State Building Commissioner or Chief Building Inspector, or is an inspector of the State Building Department or of the proper Bureau of Building Inspection.

(e) If upon inspection any elevator inspector shall find that such elevator does not comply with all the provisions of this act it shall be his duty to immediately report the condition of such elevator to the State Building Commissioner or Chief Building Inspector. If such elevator inspector is a regular employe of the State Building Department or the proper Bureau of Building Inspection he may in his discretion order such elevator to be immediately shut down.

Section 1277. (a) All elevator shafts of passenger elevators hereafter constructed and installed shall be enclosed on all sides with walls of approved fire-resistive materials of approved thickness, and there shall be no openings except for necessary doors, windows and skylights. Where, however, the building in which such elevators are constructed and installed are provided at each story with fire-resistive partitions, extending from the floor to the ceiling so as to form a vestibule in front of such elevators, enclosing walls within such vestibule will not be required. All such vestibules so formed shall be entered by approved self-closing fire doors which shall not be propped or locked back or allowed to remain in an open position.

(b) Where elevator shafts are contiguous no wall will be required between them.

(c) All doors and windows of such elevator shafts shall be constructed of approved fire-resistive materials and may be constructed of approved wired glass. In all cases windows shall be set in fixed metal sash. The outer side of all window openings shall be guarded with approved grids extending the length or breadth of the window opening as the case may be, set not more than six (6) inches apart.

(d) Elevator shafts of such elevators which do not extend the entire height of the building, shall be covered with an unpierced wall or approved covering constructed of approved fire-resistive materials.

(e) Skylights and ventilators will be permitted in elevator shafts, provided the walls of the elevator shaft are continued to a point not less than three (3) feet above the roof.

(f) All skylights and all glass used in ventilators in elevator shafts shall be approved wired glass.

(g) Where there is a bulkhead over the elevator shaft, it shall be constructed of approved fire-resistive materials and that shall be a permanent outside means of entrance thereto from the roof; the door of this entrance shall be kept locked when not in actual use.

(h) Elevator shafts of such elevators shall extend to the floor of the lowest cellar or the basement, as the case may be and the bottom

of the shaft shall be covered with concrete or other approved fire-resistant materials at least four (4) inches thick.

(i) All elevator shafts of such elevators shall be so constructed that the elevator car cannot descend to a point nearer than two (2) feet to the bottom of the elevator shaft nor ascend to a point nearer than two (2) feet to the top of the elevator shaft, nor in either case to the machinery or other objects contained therein.

(j) All elevator shafts of such elevators in addition to the permanent stop as herein required, shall be provided with spring bumpers, air or oil cushions or other devices which shall absorb all the energy of the elevator car when loaded to its full capacity and descending at full normal speed before reaching or at the permanent stop. All such devices shall be so located so as to strike the center sill or girder of the elevator car.

(k) Mechanical power passenger elevators shall be so constructed that the minimum clearance between the highest point of such elevator car and any overhead construction or other objects, when the elevator car is at the upper terminal landing; and the minimum clearance between the lowest point of such elevator car and the bottom of the shaft or any construction contained therein, when the elevator car is at the lower terminal landing shall conform to the following table at the various speeds given:

Minimum Clearance in feet.		
Lower Landing.	Upper Landing.	Speed. Feet per Minute.
2	5	100
2	5	200
3	5	300
3	5	400
4	6	500
5	7	600

(l) In such elevators there shall be no openings in the bottom of the elevator shafts except the necessary holes for necessary wires and cables used in the operation of the elevator and for necessary drainage.

(m) No explosives or highly inflammable substances will be permitted under or near any elevator shaft, and no pipes, wires or conduits other than those necessary for the operation of the elevator will be permitted under or in the elevator shaft.

(n) At the top of all elevator shafts in such elevators underneath all elevator machinery there shall be securely and permanently constructed and fastened a substantial iron grating, or iron working platform, capable of sustaining a load of not less than fifty (50) pounds to the square foot. The greatest dimension of the open spaces in such iron grating or iron working platform shall be not



more than one (1) inch, except necessary open spaces for cables. Such iron grating or iron working platforms must cover the entire area of the elevator shaft, except that where such area exceeds one hundred (100) square feet they will not be required under that portion of the shaft not occupied by machinery; provided that such open spaces are guarded by approved iron railings with toe board. Where such elevator shaft is entirely covered with a concrete roof or ceiling underneath the elevator machinery, such iron grating or iron working platform will not be required.

(o) In all elevator shafts of such elevators guide rails for elevator cars and for counterweights shall be constructed of wrought iron or steel. Elevator car guide rails shall have a uniform weight of not less than fourteen (14) pounds per lineal foot, and counterweight guide rails shall have a uniform weight of not less than seven (7) pounds per lineal foot. The lower ends of all guide rails shall be securely embedded in concrete or masonry footings; all guide rails shall be secured to the walls or frame work of the building, and where the intervals between the available points of support are more than thirteen (13) feet such guide rails shall be suitably reinforced with steel.

(p) No automatic or fusible link vertical or horizontal door shall be used in the elevator shaft of any such elevator.

(q) Where a door is constructed in the bottom of the elevator shaft of such elevators it shall be an approved vertical self-closing fire door not less than six (6) feet high by three (3) feet wide which can be opened from either side and which shall be kept closed and locked at all times except when in actual use.

Section 1278. (a) The elevator shafts of passenger elevators hereafter constructed and installed shall have at each landing a landing door which can only be unlocked from the inside, except that it may be unlocked from the outside with a removable key, and which cannot be unlocked unless the elevator car is in position at that landing.

(b) Landing doors of such elevators shall have a locking device so that they cannot be opened from the elevator car until the elevator car is within three (3) inches of the landing and until after the controlling mechanism of the elevator car has been set at the "stop" position. Such locking device shall be so constructed that when the controlling mechanism of the elevator car is in a "stop" position and the landing door opened the controlling mechanism will be locked and cannot be unlocked except by the closing of the landing door. This locking device shall be independent of every other locking device, except that it may be unlocked from the outside by a removable key as provided in this act. Such locking device at each landing shall be independent of the locking device at any other landing and in

diameters of drums and sheaves in hand power elevators, and sheaves with a slight cable bearing may be modified in the discretion of the State Building Commissioner or Chief Building Inspector with his written authority.

Swedish Iron.

Cable Size.	Minimum Diameter of Sheaves and Drum.	Total Load (Car and Contents.)
1/2, .....	20"	900 lb.
9/16, .....	22"	1,100 lb.
5/8, .....	25"	1,500 lb.
3/4, .....	30"	2,100 lb.
7/8, .....	35"	2,900 lb.
1, .....	40"	3,600 lb.
1-1/8, .....	45"	4,700 lb.
1-1/4, .....	50"	5,700 lb.

Crucible Steel.

1/2, .....	20"	2,100 lb.
9/16, .....	22"	2,500 lb.
5/8, .....	25"	3,100 lb.
3/4, .....	30"	4,300 lb.
7/8, .....	35"	5,700 lb.
1, .....	40"	7,500 lb.
1-1/8, .....	45"	9,500 lb.
1-1/4, .....	50"	11,700 lb.

(c) All such elevators and all belt driven elevators shall be provided with a slack cable device which will automatically cut-off the power and stop the elevator car in case the elevator car is obstructed in its descent.

(d) In all such elevators where a winding drum is used there shall be not less than two (2) turns of the lifting cable on the drum when the elevator car is at the lower permanent stop. The ends of the cable must be clamped to the drum on the inside.

Section 1282. (a) Passenger elevators hereafter constructed and installed shall have all overhead machinery securely fastened to the structure of the building, and all bearings must be placed on top of the structural part or parts to which they are secured.

(b) In all such elevators where steel is used its strength shall be calculated with a factor of safety of not less than six (6). Where cast iron is used this factor shall be not less than ten (10). Where timber is used this factor shall be not less than ten (10), and no part of such elevators shall be calculated with a factor of safety of less than five (5). Where medium steel, cast iron, ash or yellow pine are used they shall have not less than the following ultimate transverse strength;



Medium Steel, .....	65,000 lbs. per square inch.
Cast Iron, .....	18,000 lbs. per square inch.
Ash, .....	10,000 lbs. per square inch.
Yellow Pine, .....	10,000 lbs. per square inch.

(c) In all such elevators except those of the hydraulic plunger type the machinery shall not be located in the bottom of the elevator shaft.

(d) In all such elevators all cables shall be properly equalized and fastened independently at their terminals.

(e) In all such elevators all cables shall be equipped either with leaded sockets, shackle fastenings or other approved type of fastening. Where shackle fastenings are used a suitable clamp must be fastened to the standing and loose ends of the cable close to the upper end of the shackle. Not more than one (1) cable shall be leaded in one (1) socket.

(f) No set screw fastenings shall be used in any such elevators.

Section 1283. (a) Passenger elevators hereafter constructed and installed which are operated by hand power, shall be fitted with an approved car safety catch located underneath the floor of the elevator car.

(b) All such elevators shall be provided with an approved brake operating on the rim of the rope wheel, and the balancing weight shall be firmly secured by an auxiliary chain or cable.

(c) All such elevators with a travel of more than two (2) stories or twenty (20) feet must, in addition to the car safety catch and brake herein required in this act, be fitted with a speed governor that will control the speed in either direction.

(d) In all such elevators, except where located in hospitals or private residences, the pull rope must be located so that the elevator cannot be operated from the elevator car.

(e) No such elevators shall be balanced to more than one hundred and fifty (150) pounds in excess of the weight of the elevator car.

Section 1284. (a) Passenger elevators hereafter constructed and installed operated by hydraulic power, shall have in addition to the two (2) lifting cables required in this act two (2) independent counterweight cables where counterweights are used.

(b) All such elevators shall be equipped with automatic cut-off valves so arranged that the elevator car will come to a gradual stop at the upper and lower terminal landings independently of the controlling mechanism.

(c) All such elevators of the plunger type where the elevator car has a travel of more than one hundred and fifty (150) feet, and which require a counterweight in excess of the weight of the elevator car, must be provided with an approved independent automatic limit

stop which will bring the elevator car to a gradual stop at or before reaching the upper and lower permanent stops herein required. A similar automatic limit stop shall be attached at the upper and lower terminals of the counterweight except where bumpers are provided at the bottom of the elevator shaft.

(d) In all such elevators the hydraulic valve, chambers and cylinders must be equipped with air relief valves.

(e) All such elevators shall have a separate discharge pipe connecting each elevator independently with the discharge tank.

(f) In all such elevators of the vertical hydraulic cylinder type, the cross head must travel in steel guides.

(g) All such elevators shall be equipped with by-pass valves, or with an additional safety valve.

(h) All such elevators of the plunger type having a travel of more than seventy-five (75) feet, which are used for carrying safes or other unusual loads shall have the plunger equipped with a plunger guide or follower which will remain midway between the elevator car and stuffing box throughout the entire travel of the elevator car. In all such elevators the pressure tank must be equipped with a safety valve and an unobstructed discharge pipe therefrom of a size to discharge the entire pump delivery.

Section 1285. (a) Passenger elevators hereafter constructed and installed operated by electric power shall have in addition to the two (2) required lifting cables at least two (2) back drum counter-balance cables and two (2) elevator car counter-balance cables when necessary.

(b) All such elevators, except of the sidewalk type, shall be provided with upper and lower limit switches located either in the elevator shaft or in the elevator car which will automatically stop the elevator car at the upper and lower terminal landings. In addition there shall be located in the elevator shaft above these terminal limit switches, automatic limit switches which will automatically cut off the current, apply the brake and stop the elevator car.

(c) All such elevators shall be equipped with an approved brake which will be automatically applied when the controlling mechanism of the elevator car is in a "stop" position.

(d) In such elevators shall be equipped with an independent switch so designed that when the current is interrupted from any cause whatever it will automatically apply the brake and stop the elevator car.

Section 1286. (a) Automatic button control elevators shall not be hereafter constructed and installed except in private residences, hospitals, asylums, benevolent institutions and institutions of a similar character and in banking houses and offices where only a se-



lected class of employes are permitted to use it. No such elevator will be permitted to be operated for the use of the public and its use shall at all times be subject to restrictions within the discretion of the State Building Commissioner or Chief Building Inspector where necessary for the safety of the public or employes.

(b) Such elevators shall be subject to all the provisions of this act governing passenger elevators and freight elevators except as to door interlocks.

(c) The landings of all such elevators shall be protected with interlocking switches so that such elevators will not operate while any landing door is open or unlocked, and so that the landing door will be locked automatically when the elevator car leaves the landing.

(d) The elevator cars of such elevators shall not have openings on more than two (2) sides. Such openings shall have sliding or rolling doors or collapsible gates which shall be so arranged that the operating circuit is open unless they are closed. Such doors or gates shall be so connected in the control circuit that such elevator car cannot be operated from the buttons on the landings after it has been operated from the buttons in the elevator car, until such doors or gates have been opened and closed again.

(e) In all such elevators the control circuit shall be so designed that the elevator car will not start automatically upon the closing of any landing door or any elevator car door or gate, but will only operate by the buttons on the landings or in the elevator car.

Section 1287. (a) In passenger elevators hereafter constructed and installed where counterweights are employed, such counterweights shall operate in guides where the speed of the elevator car is more than fifty (50) feet per minute.

(b) In all such elevators counterweights shall be securely bolted together, and where located in the elevator shaft the exposed side shall be protected with a solid metal guard to a height of not less than eight (8) feet from the lower permanent stop and to a distance of ten (10) feet down from the upper permanent stop. Where counterweights do not operate in an elevator shaft they must be entirely enclosed on all sides with a solid metal guard.

(c) In all such elevators of the four corner lift type counterweights must be enclosed with a solid metal guard for the entire distance of their travel.

(d) In all such elevators counterweights shall be provided with bumpers as elsewhere required in this act.

Section 1288. (a) In passenger elevators hereafter constructed and installed there shall be placed in a conspicuous place metal plates having suitable raised letters stating the maximum allowable load, the maximum speed at which the elevator was designed to

operate, also the number, size and material of all cables. A metal tag shall also be placed at all cable fastenings, stating the size and material of the cable and the date of renewal.

(b) It shall be the duty of the owner or lessee of any building in which any such elevator is operated or of their duly authorized agent to designate every elevator in such building by a number. Such number shall be of metal and securely fastened to the bottom of the elevator car, or it may be stenciled on the beam. The figures shall be not less than three (3) inches high.

Section 1289. (a) No person shall be allowed to operate any passenger elevator except a male person over eighteen (18) years of age. Where by local ordinance elevator operators are required to have a license, no elevator operator will be allowed to operate any elevator without such license. Where elevator operators are not required by local ordinance to take out a license, the State Building Commissioner or Chief Building Inspector may require satisfactory proof of competency before such elevator operator may operate any elevator.

(b) Such elevators shall at all times be in charge of a regular operator.

Section 1290. (a) Freight elevators hereafter constructed and installed shall not have a maximum speed of more than one hundred (100) feet per minute. Where the elevator shaft of such elevators is not enclosed the maximum speed shall be not more than fifty (50) feet per minute.

(b) All such freight elevators must have signs posted at every landing and in the elevator car prohibiting all but authorized persons from riding on the elevator car.

(c) All such freight elevators operated by mechanical power must have a signal bell that can be operated from any floor or landing.

(d) The controlling mechanism of the elevator car of such elevators must be provided with a lock or other device so that the elevator car cannot be operated from any other landing than the one at which the elevator car at the time stands when deemed necessary by the State Building Commissioner or Chief Building Inspector.

(e) Where the elevator shaft of such freight elevators which are operated by mechanical power is not enclosed and where there are approved self-closing, horizontal fire doors at floor openings, the elevator car need not be provided with a speed governor.

(f) All landings of such elevators shall be adequately lighted at all times.

Section 1291. (a) Freight elevator shafts of freight elevators hereafter constructed and installed where required by this act to be enclosed shall be constructed and installed in the same manner as



is herein provided in this act for elevator shafts of passenger elevators hereafter constructed and installed, and all structural features shall be the same with the exception of the landing doors and their method of locking and operation.

(b) Elevator shafts of such freight elevators when required to be enclosed shall have at each opening on each landing an approved fire door which cannot be unlocked from the outside except with a removable key; provided that, where there is a device which will prevent the landing door from being opened unless the elevator car is at that landing, such door may be arranged to open from the outside. Such approved fire door shall be so arranged that it can only be opened by hand, or by a mechanical device when the elevator car is at that landing.

(c) Elevator shafts of such elevators will be required to be enclosed except when in garages, or stables, or when the travel of the elevator car is not more than twenty (20) feet nor to more than two (2) landings; provided that, the speed of the elevator car is not more than fifty (50) feet per minute; and provided further that, they do not run above the second story.

(d) Where the elevator shaft of such elevators operated by hand power is enclosed and the elevator car is not in charge of a regular operator, provision shall be made so that the elevator car must be operated from landings when the landing door is closed.

Section 1292. (a) Elevator shafts of freight elevators hereafter constructed and installed which are not required by this act to be enclosed shall have a substantial grid or lattice work extending to a height of at least six (6) feet from each landing. The open spaces in such grid or lattice work shall be not more than two (2) inches in diameter; except that, when bordering on counterweight runways or other moving parts they shall be not more than one-quarter ( $\frac{1}{4}$ ) inch in diameter.

(b) Such elevator shafts shall have approved landing gates at all openings on each landing. Such approved landing gates shall be so designed that they cannot be opened from the outside except by a removable key; except that, where there is a device which will prevent the gates from being opened except when the elevator car is at that landing such gates may be opened from the outside. Such approved landing gates shall be so arranged that when they are open the operating mechanism of the elevator car is locked and will remain locked until such gates are closed. Full automatic landing gates are prohibited except at the upper and lower terminal landings. Such approved landing gates shall be at least six (6) feet in height and there shall not be a clearance of more than eighteen (18) inches from the landing to the bottom of such gates when they are closed.

(c) All grille work and enclosing walls, if there be such, of such elevator shafts shall be flush with all floor openings at landings and flush with the line of the elevator shaft at each side; except that, approved landing gates may be operated inside of the elevator shaft where there is a sill clearance of one and one-half ( $1\frac{1}{2}$ ) inches.

(d) In such elevator shafts windows in enclosing walls, where there are such, shall be provided on the outside with grids as is required in the enclosing walls of elevator shafts which are enclosed; and wherever window recesses occur they shall be covered on the inside with a substantial wire grating or grid or latticed work which shall be flush with the side of the elevator shaft.

(e) Such elevator shafts which are not enclosed shall have an overhead grating and working platform as is required in elevator shafts which are enclosed, and shall also have permanent stops at the distances from the top and bottom of the elevator shaft as is required in elevator shafts which are enclosed.

(f) Such elevator shafts which are not enclosed shall have approved self-closing horizontal fire doors at each floor opening and at each landing. Such doors shall automatically open and close with the passage of the elevator car and no elevator car shall be stopped or permitted to remain standing except when at a landing in such a way as to keep such doors open. Such doors shall be capable of sustaining a concentrated load of two hundred (200) pounds to the square foot. Automatic horizontal link fire doors are prohibited.

(g) Where the elevator is in a garage and used for the carrying of automobiles each landing gate must be provided with a substantial horizontal channel bar or steel beam about twenty (20) inches from the landing.

Section 1293. Elevator cars of freight elevators hereafter constructed and installed which are operated by mechanical power shall have all sides not used as means of ingress and egress enclosed and covered with a substantial solid or grille enclosure. All sides used as a means of ingress or egress shall have elevator car gates which may be collapsible; except that, there may be one (1) side which need not have a gate.

Section 1294. (a) Freight elevators hereafter constructed and installed in which the elevator cars are lifted by cables shall have at least two (2) lifting cables. Such cables must be of crucible steel.

(b) All such elevators shall have cables, drums and sheaves of the sizes and diameters not less than those given in the following table according to their respective loads; except that, such sizes and diameters of drums and sheaves in hand power elevators, and sheaves on sidewalk elevators, and sheaves with a slight cable bearing may be modified in the discretion of the State Building Commissioner or Chief Building Inspector.



## Crucible Steel.

Cable Size.	Minimum Diameter of Sheaves and Drum.	Total Load (Car and Contents.)
1/2, .....	20"	2,100 lb.
9/16, .....	22"	2,500 lb.
5/8, .....	23"	3,100 lb.
3/4, .....	26"	4,300 lb.
7/8, .....	35"	5,700 lb.
1-, .....	40"	7,500 lb.
1-1/8, .....	45"	9,500 lb.
1-1/4, .....	50"	11,700 lb.

(c) All such elevators and all belt driven elevators shall be provided with a slack cable device which will automatically cut off the power and stop the elevator car in case the elevator car is obstructed in its descent.

(d) In all such elevators where a winding drum is used there shall be not less than two (2) turns of the lifting cable on the drum when the elevator car is at the lower permanent stop. The ends of the cable must be clamped to the drum on the inside.

Section 1295. (a) Freight elevators hereafter constructed and installed shall have all overhead machinery securely fastened to the structure of the building, and all bearings must be placed on top of the structural part or parts to which they are secured.

(b) In all such elevators where steel is used its strength shall be calculated with a factor of safety of not less than six (6). Where cast iron is used this factor shall be not less than ten (10). Where timber is used this factor shall be not less than ten (10), and no part of such elevator shall be calculated with a factor of safety of less than five (5). Where medium steel, cast iron, ash or yellow pine are used they shall have not less than the following ultimate transverse strength:

Medium Steel, .....	65,000 lbs. per square inch.
Cast Iron, .....	18,000 lbs. per square inch.
Ash, .....	10,000 lbs per square inch.
Yellow Pine, .....	10,000 lbs per square inch.

(c) In all such elevators except those of the hydraulic plunger type the machinery shall not be located in the bottom of the elevator shaft.

(d) In all such elevators all cables shall be properly equalized and fastened independently at their terminals.

(e) In all such elevators all cables shall be equipped either with leaded sockets, shackle fastenings or other approved type of fastenings. Where shackle fastenings are used a suitable clamp must be fastened to the standing and loose end of the cable close to the upper

end of the shackle. Not more than one (1) cable shall be leaded in one (1) socket.

(f) No set screw fastenings shall be used in any such elevators.

Section 1296. (a) Freight elevators hereafter constructed and installed which are operated by hand power, except such elevators of the four corner lift and sidewalk types that do not have a travel of more than twenty (20) feet, shall be fitted with an approved car safety catch located underneath the floor of the elevator car.

(b) All such elevators shall be provided with an approved brake operating on the rim of the rope wheel, and the balancing weight shall be firmly secured by an auxiliary chain or cable.

(c) All such elevators with a travel of more than two (2) stories or twenty (20) feet must, in addition to the car safety catch and brake herein required in this act, be fitted with a speed governor that will control the speed in either direction.

(d) In all such elevators, except where located in hospitals or private residences, the pull rope must be located so that the elevator cannot be operated from the elevator car.

(e) No such elevators shall be balanced to more than one hundred and fifty (150) pounds in excess of the weight of the elevator car.

Section 1297. (a) Freight elevators hereafter constructed and installed which are operated by hydraulic power, shall have in addition to the two (2) lifting cables required in this act two (2) independent counterweight cables where counterweights are used.

(b) All such elevators shall be equipped with automatic cut-off valves so arranged that the elevator car will come to a gradual stop at the upper and lower terminal landings independently of the controlling mechanism.

(c) All such elevators of the plunger type where the elevator car has a travel of more than one hundred and fifty (150) feet, and which require a counterweight in excess of the weight of the elevator car, must be provided with an approved independent automatic limit stop which will bring the elevator car to a gradual stop at or before reaching the upper and lower permanent stops herein required. A similar automatic limit stop shall be attached at the upper and lower terminals of the counterweight except where bumpers are provided at the bottom of the elevator shaft.

(d) In all such elevators the hydraulic valve, chambers and cylinders must be equipped with air relief valves.

(e) All such elevators shall have a separate discharge pipe connecting each elevator independently with the discharge tank.

(f) In all such elevators of the vertical hydraulic cylinder type, the cross head must travel in steel guides.



(g) All such elevators shall be equipped with by-pass valves, or with an additional safety valve.

Section 1298. (a) Freight elevators hereafter constructed and installed which are operated by electric power shall have in addition to the two (2) required lifting cables at least two (2) back drum counter-balance cables and two (2) elevator car counter-balance cables when necessary.

(b) All such elevators, except of the side-walk type shall be provided with upper and lower limit switches located either in the elevator shaft or in the elevator car which will automatically stop the elevator car at the upper and lower terminal landings. In addition there shall be located in the elevator shaft above these terminal limit switches, automatic limit switches which will automatically cut off the current, apply the brake and stop the elevator car.

(c) All such elevators shall be equipped with an approved brake which will be automatically applied when the controlling mechanism of the elevator car is in a "stop" position.

(d) All such elevators shall be equipped with an independent switch so designed that when the current is interrupted from any cause whatever it will automatically apply the brake and stop the elevator car.

Section 1299. (a) In freight elevators hereafter constructed and installed counterweights shall be securely bolted together, and where located in the elevator shaft the exposed side shall be protected with a solid metal guard to a height of not less than eight (8) feet from the lower permanent stop and to a distance of ten (10) feet down from the upper permanent stop; where counterweights do not operate in an elevator shaft they must be entirely enclosed on all sides with a solid metal guard.

(b) In all such elevators where counterweights are employed, such counterweights shall operate in guides where the speed of the elevator car is more than fifty (50) feet per minute.

(c) In all such elevators of the four corner lift type counterweights must be enclosed with a solid metal guard for the entire distance of their travel.

(d) In all such elevators counterweights shall be provided with bumpers as elsewhere required in this act.

Section 1300. Freight elevators of the back guide type shall not be hereafter constructed and installed.

Section 1301. (a) Freight elevators hereafter constructed and installed of a type known as sidewalk elevators operated by mechanical power shall be so constructed that it will be necessary either to have an approved railing at the sidewalk level in position before

The elevator car can be started or to have the controlling device so arranged that the elevator car cannot start until the sidewalk openings are opened by hand. In the latter case sidewalk openings must be protected by chains or suitable bars or screens; provided that, when such sidewalk elevator is located inside the building, the unprotected sides of the sidewalk opening must be guarded with a solid guard or an approved wire screen not less than four (4) feet six (6) inches in height, and there must be approved gates at the loading sides.

(b) Elevator cars of such elevators shall be so constructed that they cannot approach nearer than five (5) feet to the doors at the sidewalk level unless the same are open, except when operated by hand power.

(c) All sidewalk openings of such elevators shall be provided with approved horizontal doors.

Section 1302. (a) Freight elevators of the four corner lift type shall not be hereafter constructed and installed except in stables and garages.

(b) Where such elevators are used in garages and where the travel does not exceed twenty (20) feet and the load five thousand (5,000) pounds, safety devices may be omitted, but in such cases there must be at least two (2) crucible steel cables at each corner properly equalized and not less than five-eighths (5-8) inch in diameter. Where the travel exceeds more than twenty (20) feet such elevators shall be subject to all the requirements of freight elevators, and where the maximum load exceeds five thousand (5,000) pounds the elevator car shall have a safety frame and girdle, and all elevator car frame work and overhead beams shall be constructed of iron and steel. Such elevator car and counterweights shall operate on steel guide rails.

(c) Where such elevators are used exclusively in garages the floor of the elevator car shall be capable of supporting a load equal to seventy (70) per cent. of the maximum allowable load at any point between the extreme ends of the floor of the elevator car, and for cars of the side sill pattern hung on cables at the four corners the cables shall be proportioned to support a load of at least forty (40) per cent. in excess of the desired load.

Section 1303. (a) In freight elevators hereafter constructed and installed there shall be placed in a conspicuous place metal plates having suitable raised letters stating the maximum allowable load, the maximum speed at which the elevator was designed to operate, also the number, size and material of all cables. A metal tag shall



also be placed at all cable fastenings, stating the size and material of the cable and the date of renewal.

(b) It shall be the duty of the owner or lessee of any building in which any such elevator is operated or of their duly authorized agent to designate every elevator in such building by a number. Such number shall be of metal and securely fastened to the bottom of the elevator car, or it may be stenciled on the beam. The figures shall be not less than three (3) inches high.

Section 1304. (a) No person shall be allowed to operate any freight elevator hereafter constructed and installed except a male person over eighteen (18) years of age. Where by local ordinance elevator operators are required to have a license, no elevator operator will be allowed to operate any elevator without such license. Where elevator operators are not required by local ordinance to take out a license, the State Building Commissioner or Chief Building Inspector may require satisfactory proof of competency before such elevator operator may operate any elevator.

(b) Such elevators shall at all times be in charge of a regular operator.

(c) Such elevators in factories and office buildings, stores and mercantile establishments in which there are two (2) or more tenants shall at all times be in charge of a regular operator.

#### **Special Requirements for Elevators Prior Constructed and Installed.**

Section 1305. In elevators prior constructed and installed, whether a passenger elevator or a freight elevator that may hereafter be repaired shall be repaired as nearly as possible in conformity with the provisions of this act for such elevators hereafter constructed and installed. All such repairs, except the usual repairs necessary by reason of ordinary wear and tear, shall be made subject to the approval of the State Building Commissioner or Chief Building Inspector.

Section 1306. In elevators prior constructed and installed, whether used as passenger elevators or freight elevators, all car safety catches, speed governors, brakes, bumpers, air cushions and limit switches shall be tested while the elevator car is in motion carrying its maximum allowable load when deemed necessary by the State Building Commissioner or Chief Building Inspector.

Section 1307. (a) The State Building Commissioner or Chief Building Inspector may from time to time appoint approved elevator inspectors who shall be men versed in elevator construction and equipment.

(b) The State Building Commissioner or Chief Building Inspector shall keep on file for public inspection a list showing the names and addresses of all elevator inspectors approved by them.

end of the shackle. Not more than one (1) cable shall be leaded in one (1) socket.

(f) No set screw fastenings shall be used in any such elevators.

Section 1296. (a) Freight elevators hereafter constructed and installed which are operated by hand power, except such elevators of the four corner lift and sidewalk types that do not have a travel of more than twenty (20) feet, shall be fitted with an approved car safety catch located underneath the floor of the elevator car.

(b) All such elevators shall be provided with an approved brake operating on the rim of the rope wheel, and the balancing weight shall be firmly secured by an auxiliary chain or cable.

(c) All such elevators with a travel of more than two (2) stories or twenty (20) feet must, in addition to the car safety catch and brake herein required in this act, be fitted with a speed governor that will control the speed in either direction.

(d) In all such elevators, except where located in hospitals or private residences, the pull rope must be located so that the elevator cannot be operated from the elevator car.

(e) No such elevators shall be balanced to more than one hundred and fifty (150) pounds in excess of the weight of the elevator car.

Section 1297. (a) Freight elevators hereafter constructed and installed which are operated by hydraulic power, shall have in addition to the two (2) lifting cables required in this act two (2) independent counterweight cables where counterweights are used.

(b) All such elevators shall be equipped with automatic cut-off valves so arranged that the elevator car will come to a gradual stop at the upper and lower terminal landings independently of the controlling mechanism.

(c) All such elevators of the plunger type where the elevator car has a travel of more than one hundred and fifty (150) feet, and which require a counterweight in excess of the weight of the elevator car, must be provided with an approved independent automatic limit stop which will bring the elevator car to a gradual stop at or before reaching the upper and lower permanent stops herein required. A similar automatic limit stop shall be attached at the upper and lower terminals of the counterweight except where bumpers are provided at the bottom of the elevator shaft.

(d) In all such elevators the hydraulic valve, chambers and cylinders must be equipped with air relief valves.

(e) All such elevators shall have a separate discharge pipe connecting each elevator independently with the discharge tank.

(f) In all such elevators of the vertical hydraulic cylinder type, the cross head must travel in steel guides.



(c) All doors and windows of such elevator shafts shall be constructed of approved fire-resistive materials and may be constructed of approved wired glass. In all cases windows shall be set in fixed metal sash. The outer side of all window openings shall be guarded with approved grids extending the length or breadth of the window opening as the case may be, set more than six (6) inches apart.

(d) Elevator shafts of such elevators which do not extend the entire height of the building, shall be covered with an unpierced wall or approved covering constructed of approved fire-resistive materials.

(e) Skylights and ventilators will be permitted in elevator shafts, provided the walls of the elevator shaft are continued to a point not less than three (3) feet above the roof.

(f) All skylights and all glass used in ventilators in elevator shafts shall be approved wired glass.

(g) Where there is a bulkhead over the elevator shaft, it shall be constructed of approved fire-resistive materials and there shall be a permanent outside means of entrance thereto from the roof; the door of this entrance shall be kept locked when not in actual use.

(h) Elevator shafts of such elevators shall extend to the floor of the lowest cellar or the basement, as the case may be, and the bottom of the shaft shall be covered with concrete or other approved fire-resistive materials at least four (4) inches thick, subject to the approval of the State Building Commissioner or Chief Building Inspector.

(i) All elevator shafts of such elevators shall be so constructed that the elevator car cannot descend to a point nearer than two (2) feet to the bottom of the elevator shaft nor ascend to a point nearer than two (2) feet to the top of the elevator shaft, nor in either case to the machinery or other objects contained therein.

(j) All elevator shafts of such elevators in addition to the permanent stop as herein required, shall be provided with spring bumpers, air or oil cushions or other devices which shall absorb all the energy of the elevator car when loaded to its full capacity and descending at full normal speed before reaching or at the permanent stop. All such devices shall be so located so as to strike the center sill or girder of the elevator car.

(k) Mechanical power passenger elevators shall be so constructed that the minimum clearance between the highest point of such elevator car and any overhead construction or other objects, when the elevator car is at the upper terminal landing; and the minimum clearance between the lowest point of such elevator car and the bottom of the shaft or any construction contained therein, when the elevator car is at the lower terminal landing shall conform to the following table at the various speeds given:

Minimum Clearance in feet.

Lower Landing.	Upper Landing.	Speed. Feet per Minute.
2	5	100
3	5	200
3	5	300
3	5	400
4	6	500
5	7	600

(l) In such elevators there shall be no openings in the bottom of the elevator shafts except the necessary holes for necessary wires and cables used in the operation of the elevator and for necessary drainage.

(m) No explosives or highly inflammable substances will be permitted under or near any elevator shaft, and no pipes, wires or conduits other than those necessary for the operation of the elevator will be permitted under or in the elevator shaft.

(n) At the top of all elevator shafts in such elevators underneath all elevator machinery there shall be securely and permanently constructed and fastened a substantial iron grating, or iron working platform, capable of sustaining a load of not less than fifty (50) pounds to the square foot. The greatest dimension of the open spaces in such iron grating or iron working platform shall be not more than one (1) inch, except necessary open spaces for cables. Such iron grating or iron working platforms must cover the entire area of the elevator shaft, except that where such area exceeds one hundred (100) square feet they will not be required under that portion of the shaft not occupied by machinery; provided that, such open spaces are guarded by approved iron railings with toe board. Where such elevator shaft is entirely covered with a concrete roof or ceiling underneath the elevator machinery, such iron grating or iron working platform will not be required.

(o) In all elevator shafts of such elevators guide rails for elevator cars and for counterweights shall be constructed of wrought iron or steel. Elevator car guide rails shall have a uniform weight of not less than fourteen (14) pounds per lineal foot, and counterweight guide rails shall have a uniform weight of not less than seven (7) pounds per lineal foot. The lower ends of all guide rails shall be securely embedded in concrete or masonry footings; all guide rails shall be secured to the walls or frame work of the building, and where the intervals between the available points of support are more than thirteen (13) feet such guide rails shall be suitably reinforced with steel. The State Building Commissioner or Chief Building Inspector may permit modifications of the requirements of this



act for guide rails wherever in his opinion the same may be necessary.

(p) No automatic or fusible link vertical or horizontal door shall be used in the elevator shaft of any such elevator.

(q) Where a door is constructed in the bottom of the elevator shaft of such elevators it shall be an approved vertical self-closing fire door not less than six (6) feet high by three (3) feet wide which can be opened from either side and which shall be kept closed and locked at all times except when in actual use.

Section 1310. (a) The elevator shafts of passenger elevators prior to constructed and installed shall have at each landing a landing door which can only be unlocked from the inside, except that, it may be unlocked from the outside with a removable key, and which cannot be unlocked unless the elevator car is in position at that landing.

(b) Landing doors of such elevators shall have a locking device so that they cannot be opened from the elevator car until the elevator car is within three (3) inches of the landing and until after the controlling mechanism of the elevator car has been set at the "stop" position. Such locking device shall be so constructed that when the controlling mechanism of the elevator car is in a "stop" position and the landing door opened the controlling mechanism will be locked and cannot be unlocked except by the closing of the landing door. This locking device shall be independent of every other locking device, except that it may be unlocked from the outside by a removable key as provided in this act. Such locking device at each landing shall be independent of the locking device at any other landing and independent of any automatic door opening or closing device. Such locking device shall be so arranged that the elevator car will not touch any of the mechanism at any landing unless the controlling mechanism of the elevator car is in a "stop" position. When any part of such locking device is constructed in the elevator shaft above or below any landing door it shall be covered with a steel plate set flush with the walls of the shaft. Such locking devices operated by electricity shall not receive their operating current from a primary battery.

(c) Landing doors of such elevators shall have the inner side set flush with the walls of the shaft and shall roll or slide in a horizontal direction. Such landing doors shall be at least seven (7) feet in height and shall be so constructed that when opened the opening will have a width not in excess of the opening of the elevator car when the elevator car door is open. Landing doors shall be securely attached to the walls of the elevator shaft and shall be constructed of approved fire-resistive materials and may be of wired glass not less than one-quarter ( $\frac{1}{4}$ ) inch thick, set in metal frames.

(d) Landings of all such elevators shall be covered with an approved non-slipping floor covering or flooring to a distance of at least two (2) feet from the landing doors and all landings shall be adequately lighted at all times.

Section 1311. (a) Passenger elevators prior constructed and installed shall be operated by mechanical power except that in hospitals and private residences hand power operated elevators may be used for carrying passengers. No belt driven elevators operated by mechanical power may be used for passenger elevators, and no chain driven elevators operated by mechanical power, which receive their power from a common source, may be used for passenger elevators, but silent chain driven elevators operated by mechanical power obtained from an independent source may be used when approved.

(b) The maximum speed of such elevators shall not exceed six hundred (600) feet per minute.

(c) The maximum lifting capacity of such elevators, except where in hospitals, shall be equal to a load of not less than seventy-five (75) pounds per square foot of floor area of the elevator car plus the unbalanced weight of the elevator car and girdle. Where the elevator car is overbalanced from the reverse side of the drum this maximum lifting capacity shall be equal to a load of not less than seventy-five (75) pounds per square foot of floor area of the elevator car.

Section 1312. (a) The elevator cars of passenger elevators prior constructed and installed shall be completely enclosed except at door openings. The top and sides of such elevator car may be of grille work or other open construction; provided that, the sides shall be covered with a wire screen having a mesh of not more than one-quarter ( $\frac{1}{4}$ ) inch to a height of at least six (6) feet.

(b) Elevator cars of such elevators shall consist of not more than one (1) compartment either horizontally or vertically.

(c) Elevator cars of such elevators shall not have openings on more than two (2) sides. Such openings shall have sliding or rolling elevator car doors or collapsible elevator car gates. Where such elevators are operated by electrical power they shall be so constructed that the operating circuit will be open when these elevator car doors or elevator car gates are open, and will remain open until these doors or gates are closed. Where such elevators are operated by other than electrical power or hand power they shall be so constructed that the elevator car cannot be operated unless the elevator car door or elevator car gate is closed.

(d) All elevator cars of such elevators shall have a trap door in the top capable of being opened from within or from without the elevator car, and of a least dimension of not less than two (2) feet. Such trap door shall be kept closed at all times except when in actual



use and there shall be a permanent ladder fixed to the side of the elevator car leading to such trap door.

(e) Elevator cars of such elevators shall be adequately lighted.

(f) Elevator cars of such elevators suspended from cables, having a speed of more than one hundred and twenty-five (125) feet per minute shall be provided with a friction clamp safety catch located under the floor of the elevator car and operated by a centrifugal speed governor in such a manner that such device will bring the elevator car to a gradual stop within a distance of not more than eight (8) feet. Where the elevator car has a speed of not more than one hundred and twenty-five (125) feet per minute, or where the travel of the elevator car does not exceed twenty (20) feet, approved instantaneous car safety catches may be used, except that a pawl and ratchet will not be considered an approved instantaneous car safety catch.

(g) All elevator cars of such elevators which are permitted to carry safes or other unusual loads shall be equipped with a locking device which will hold the elevator car at any landing independently of the lifting apparatus or elevator machinery.

Section 1313. (a) Passenger elevators prior constructed and installed which are lifted by cables shall have at least two (2) lifting cables. Such cables must be either Swedish iron or Crucible steel.

(b) All such elevators shall have cables, drums and sheaves of the sizes and diameters not less than those given in the following table according to their respective loads; except that, such sizes and diameters of drums and sheaves in hand power elevators, and sheaves with a slight cable bearing may be modified in the discretion of the State Building Commissioner or Chief Building Inspector with his written authority.

#### Swedish Iron.

Cable Size.	Minimum Diameter of Sheaves and Drum.	Total Load (Car and Contents.)
1/2, .....	20"	900 lb.
9/16, .....	22"	1,100 lb.
5/8, .....	25"	1,500 lb.
3/4, .....	30"	2,100 lb.
7/8, .....	35"	2,900 lb.
1-, .....	40"	3,600 lb.
1-1/8, .....	45"	4,700 lb.
1-1/4, .....	50"	5,700 lb.

#### Crucible Steel.

1/2, .....	20"	2,100 lb.
9/16, .....	22"	2,500 lb.
5/8, .....	25"	3,100 lb.
3/4, .....	30"	4,300 lb.
7/8, .....	35"	5,700 lb.
1-, .....	40"	7,500 lb.
1-1/8, .....	45"	9,500 lb.
1-1/4, .....	50"	11,700 lb.

(c) All such elevators and all belt driven elevators shall be provided with a slack cable device which will automatically cut-off the power and stop the elevator car in case the elevator car is obstructed in its descent.

(d) In all such elevators where a winding drum is used there shall be not less than two (2) turns of the lifting cable on the drum when the elevator car is at the lower permanent stop. The ends of the cable must be clamped to the drum on the inside.

Section 1314. (a) Passenger elevators prior constructed and installed shall have all overhead machinery securely fastened to the structure of the building, and all bearings must be placed on top of the structural part or parts to which they are secured.

(b) In all such elevators where steel is used its strength shall be calculated with a factor of safety of not less than six (6). Where cast iron is used this factor shall be not less than ten (10). Where timber is used this factor shall be not less than ten (10), and no part of such elevators shall be calculated with a factor of safety of less than five (5). Where medium steel, cast iron, ash or yellow pine are used they shall have not less than the following ultimate transverse strength:

Medium Steel, .....	65,000 lbs. per square inch.
Cast Iron, .....	18,000 lbs. per square inch.
Ash, .....	10,000 lbs. per square inch.
Yellow Pine, .....	10,000 lbs. per square inch.

(c) In all such elevators except those of the hydraulic plunger type the machinery shall not be located in the bottom of the elevator shaft.

(d) In all such elevators all cables shall be properly equalized and fastened independently at their terminals.

(e) In all such elevators all cables shall be equipped either with leaded sockets, shackle fastenings or other approved type of fastenings. Where shackle fastenings are used a suitable clamp must be fastened to the standing and loose ends of the cable close to the upper end of the shackle. Not more than one (1) cable shall be leaded in one (1) socket.

(f) No set screw fastenings shall be used in any such elevators.

Section 1315. (a) Passenger elevators prior constructed and installed which are operated by hand power, shall be fitted with an approved car safety catch located underneath the floor of the elevator car.

(b) All such elevators shall be provided with an approved brake operating on the rim of the rope wheel, and the balancing weight shall be firmly secured by an auxilliary chain or cable.

(c) All such elevators with a travel of more than two (2) stories or twenty (20) feet must, in addition to the car safety catch and



Height of at least six (6) feet from each landing. The open space in such grid or lattice work shall be not more than two (2) inches in diameter; except that, when bordering on counterweight runway or other moving parts they shall be not more than one-quarter ( $\frac{1}{4}$ ) inch in diameter.

(b) Such elevator shafts shall have approved landing gates at all openings on each landing. Such approved landing gates shall be designed that they cannot be opened from the outside except by a removable key; except that, where there is a device which will prevent the gates from being opened except when the elevator car is at that landing such gates may be opened from the outside. Such approved landing gates shall be so arranged that when they are open the operating mechanism of the elevator car is locked and will remain locked until such gates are closed. Full automatic landing gates are prohibited except at the upper and lower terminal landings. Such approved landing gates shall be at least six (6) feet height and there shall not be a clearance of more than eighteen (18) inches from the landing to the bottom of such gates when they are closed.

(c) All grille work and enclosing walls, if there be such, of such elevator shafts shall be flush with all floor openings at landings and flush with the line of the elevator shaft at each side; except that, approved landing gates may be operated inside of the elevator shaft where there is a sill clearance of one and one-half ( $1\frac{1}{2}$ ) inches.

(d) In such elevator shafts windows in enclosing walls, where there are such, shall be provided on the outside with grids as is required in the enclosing walls of elevator shafts which are enclosed; and wherever window recesses occur they shall be covered on the inside with a substantial wire grating or grid or latticed work which shall be flush with the side of the elevator shaft.

(e) Such elevator shafts which are not enclosed shall have an overhead grating and working platform as is required in elevator shafts which are enclosed, and shall also have permanent stops at the distances from the top and bottom of the elevator shaft as is required in elevator shafts which are enclosed.

(f) Such elevator shafts which are not enclosed shall have approved self-closing horizontal fire doors at each floor opening and at each landing. Such doors shall automatically open and close with the passage of the elevator car and no elevator car shall be stopped or permitted to remain standing except when at a landing in such a way as to keep such doors open. Such doors shall be capable of sustaining a concentrated load of two hundred (200) pounds to the square foot. Automatic horizontal link fire doors are prohibited.

(g) Where the elevator is in a garage and used for the carrying of automobiles each landing gate must be provided with a substan-

ance cables and two (2) elevator car counter-balance cables when necessary.

(b) All such elevators, except of the sidewalk type, shall be provided with upper and lower limit switches located either in the elevator shaft or in the elevator car which will automatically stop the elevator car at the upper and lower terminal landings. In addition there shall be located in the elevator shaft above these terminal limit switches, automatic limit switches which will automatically cut-off the current, apply the brake and stop the elevator car.

(c) All such elevators shall be equipped with an approved brake which will be automatically applied when the controlling mechanism of the elevator car is in a "stop" position.

(d) All such elevators shall be equipped with an independent switch so designed that when the current is interrupted from any cause whatever it will automatically apply the brake and stop the elevator car.

Section 1318. (a) Automatic button control elevators prior constructed and installed shall not be operated for the use of the public, and their use shall at all times be subject to restrictions within the discretion of the State Building Commissioner or Chief Building Inspector where necessary for the safety of the public or employees.

(b) Such elevators shall be subject to all the provisions of this act governing passenger elevators and freight elevators except as to door interlocks.

(c) The landings of all such elevators shall be protected with interlocking switches so that such elevators will not operate while any landing door is open or unlocked, and so that the landing door will be locked automatically when the elevator car leaves the landing.

(d) The elevator cars of such elevators shall not have openings on more than two (2) sides. Such openings shall have sliding or rolling doors or collapsible gates which shall be so arranged that the operating circuit is open unless they are closed. Such doors or gates shall be so connected in the control circuit that such elevator car cannot be operated from the buttons on the landings after it has been operated from the buttons in the elevator car, until such doors or gates have been opened and closed again.

(e) In all such elevators the control circuit shall be so designed that the elevator car will not start automatically upon the closing of any landing door or any elevator door or gate, but will only operate by the buttons on the landings or in the elevator car.

Section 1319. (a) In passenger elevators prior constructed and installed where counterweights are employed, such counterweights shall operate in guides where the speed of the elevator car is more than fifty (50) feet per minute.



(b) In all such elevators counterweights shall be securely bolted together, and where located in the elevator shaft the exposed side shall be protected with a solid metal guard to a height of not less than eight (8) feet from the lower permanent stop and to a distance of ten (10) feet down from the upper permanent stop. Where counterweights do not operate in an elevator shaft they must be entirely enclosed on all sides with a solid metal guard.

(c) In all such elevators of the four corner lift type counterweights must be enclosed with a solid metal guard for the entire distance of their travel.

(d) In all such elevators counterweights shall be provided with bumpers as elsewhere required in this act.

Section 1320. (a) In passenger elevators prior constructed and installed there shall be placed in a conspicuous place metal plates having suitable raised letters stating the maximum allowable load, the maximum speed at which the elevator was designed to operate, also the number, size and material of all cables. A metal tag shall also be placed at all cable fastenings, stating the size and material of the cable and the date of renewal.

(b) It shall be the duty of the owner or lessee of any building in which any such elevator is operated or of their duly authorized agent to designate every elevator in such building by a number. Such number shall be of metal and securely fastened to the bottom of the elevator car, or it may be stenciled on the beam. The figures shall be not less than three (3) inches high.

Section 1321. (a) No person shall be allowed to operate any passenger elevator except a male person over eighteen (18) years of age. Where by local ordinance elevator operators are required to have a license, no elevator operator will be allowed to operate any elevator without such license. Where elevator operators are not required by local ordinance to take out a license, the State Building Commissioner or Chief Building Inspector may require satisfactory proof of competency before such elevator operator may operate any elevator.

(b) Such elevators shall at all times be in charge of a regular operator.

Section 1322. (a) Freight elevators prior constructed and installed shall not have a maximum speed of more than one hundred (100) feet per minute. Where the elevator shaft of such elevators is not enclosed the maximum speed shall be not more than fifty (50) feet per minute.

(b) All such freight elevators must have signs posted at every landing and in the elevator car prohibiting all but authorized persons from riding on the elevator car.

(e) No such elevators shall be balanced to more than one hundred and fifty (150) pounds in excess of the weight of the elevator car.

Section 1329. (a) Freight elevators prior constructed and installed which are operated by hydraulic power, shall have in addition to the two (2) lifting cables required in this act two (2) independent counterweight cables where counterweights are used.

(b) All such elevators shall be equipped with automatic cut-off valves so arranged that the elevator car will come to a gradual stop at the upper and lower terminal landings independently of the controlling mechanism.

(c) All such elevators of the plunger type where the elevator car has a travel of more than one hundred and fifty (150) feet, and which require a counterweight in excess of the weight of the elevator car, must be provided with an approved independent automatic limit stop which will bring the elevator car to a gradual stop at or before reaching the upper and lower permanent stops herein required. A similar automatic limit stop shall be attached at the upper and lower terminals of the counterweight except where bumpers are provided at the bottom of the elevator shaft.

(d) In all such elevators the hydraulic valve, chambers and cylinders must be equipped with air relief valves.

(e) All such elevators shall have a separate discharge pipe connecting each elevator independently with the discharge tank.

(f) In all such elevators of the vertical hydraulic cylinder type, the cross head must travel in steel guides.

(g) All such elevators shall be equipped with by-pass valves, or with an additional safety valve.

Section 1330. (a) Freight elevators prior constructed and installed which are operated by electric power shall have in addition to the two (2) required lifting cables at least two (2) back drum counter-balance cables and two (2) elevator car counter-balance cables when necessary.

(b) All such elevators, except of the sidewalk type shall be provided with upper and lower limit switches located either in the elevator shaft or in the elevator car which will automatically stop the elevator car at the upper and lower terminal landings. In addition there shall be located in the elevator shaft above these terminal limit switches, automatic limit switches which will automatically cut off the current, apply the brake and stop the elevator car.

(c) All such elevators shall be equipped with an approved brake which will be automatically applied when the controlling mechanism of the elevator car is in a "stop" position.



**Section 1327.** (a) Freight elevators prior constructed and installed shall have all overhead machinery securely fastened to the structure of the building, and all bearings must be placed on top of the structural part or parts to which they are secured.

(b) In all such elevators where steel is used its strength shall be calculated with a factor of safety of not less than six (6). Where cast iron is used this factor shall be not less than ten (10). Where timber is used this factor shall be not less than ten (10), and no part of such elevator shall be calculated with a factor of safety of less than five (5). Where medium steel, castiron, ash or yellow pine are used they shall have not less than the following ultimate transverse strength:

Medium steel, .....	65,000 lbs. per square inch.
Cast iron, .....	18,000 lbs. per square inch.
Ash, .....	10,000 lbs. per square inch.
Yellow pine, .....	10,000 lbs. per square inch.

(c) In all such elevators except those of the hydraulic plunger type the machinery shall not be located in the bottom of the elevator shaft.

(d) In all such elevators all cables shall be properly equalized and fastened independently at their terminals.

(e) In all such elevators all cables shall be equipped either with loaded sockets, shackle fastenings or other approved type of fastening. Where shackle fastenings are used a suitable clamp must be fastened to the standing and loose ends of the cable close to the upper end of the shackle. Not more than one (1) cable shall be leaded in one (1) socket.

(f) No set screw fastenings shall be used in any such elevators.

**Section 1328.** (a) Freight elevators prior constructed and installed which are operated by hand power, except such elevators of the four corner lift and sidewalk types that do not have a travel of more than twenty (20) feet, shall be fitted with an approved car safety catch located underneath the floor of the elevator car.

(b) All such elevators shall be provided with an approved brake operating on the rim of the rope wheel, and the balancing weight shall be firmly secured by an auxiliary chain or cable.

(c) All such elevators with a travel of more than two (2) stories or twenty (20) feet must, in addition to the car safety catch and brake herein required in this act, be fitted with a speed governor that will control the speed in either direction.

(d) In all such elevators, except where located in hospitals or private residences, the pull rope must be located so that the elevator cannot be operated from the elevator car.

(e) No such elevators shall be balanced to more than one hundred and fifty (150) pounds in excess of the weight of the elevator car.

Section 1329. (a) Freight elevators prior constructed and installed which are operated by hydraulic power, shall have in addition to the two (2) lifting cables required in this act two (2) independent counterweight cables where counterweights are used.

(b) All such elevators shall be equipped with automatic cut-off valves so arranged that the elevator car will come to a gradual stop at the upper and lower terminal landings independently of the controlling mechanism.

(c) All such elevators of the plunger type where the elevator car has a travel of more than one hundred and fifty (150) feet, and which require a counterweight in excess of the weight of the elevator car, must be provided with an approved independent automatic limit stop which will bring the elevator car to a gradual stop at or before reaching the upper and lower permanent stops herein required. A similar automatic limit stop shall be attached at the upper and lower terminals of the counterweight except where bumpers are provided at the bottom of the elevator shaft.

(d) In all such elevators the hydraulic valve, chambers and cylinders must be equipped with air relief valves.

(e) All such elevators shall have a separate discharge pipe connecting each elevator independently with the discharge tank.

(f) In all such elevators of the vertical hydraulic cylinder type, the cross head must travel in steel guides.

(g) All such elevators shall be equipped with by-pass valves, or with an additional safety valve.

Section 1330. (a) Freight elevators prior constructed and installed which are operated by electric power shall have in addition to the two (2) required lifting cables at least two (2) back drum counter-balance cables and two (2) elevator car counter-balance cables when necessary.

(b) All such elevators, except of the sidewalk type shall be provided with upper and lower limit switches located either in the elevator shaft or in the elevator car which will automatically stop the elevator car at the upper and lower terminal landings. In addition there shall be located in the elevator shaft above these terminal limit switches, automatic limit switches which will automatically cut off the current, apply the brake and stop the elevator car.

(c) All such elevators shall be equipped with an approved brake which will be automatically applied when the controlling mechanism of the elevator car is in a "stop" position.



## ARTICLE XXVI.

### Special Requirements for Smoke Flues, Chimneys, Chimney Stacks, Smoke Pipes, Fire Places and Hearths Hereafter Erected and Constructed.

Section 1337. (a) Smoke flues, chimneys and chimney stacks hereafter erected and constructed shall be built of brick, stone or concrete. Flue walls shall be not less than eight (8) inches in thickness and shall be constructed entirely of brick, stone or concrete; except that, four (4) inch concrete walls lined with four (4) inch brick walls and four (4) inch brick walls lined with four (4) inch fire brick flue lining will be permitted.

(b) The walls back of smoke flues in common walls and the walls between smoke flues of adjoining buildings shall be not less than eight (8) inches in thickness. The walls between smoke flues in a group of smoke flues in the same building may be not less than four (4) inches in thickness.

(c) The inside of any smoke flue shall not be nearer than four (4) inches to the center line of any common wall.

(d) Flue walls and walls to which they are bonded shall be so proportioned that they will not be subject to strains greater than the maximum strains permitted for the material of which they are constructed.

(e) Smoke flues, chimneys and chimney stacks constructed of metal will be permitted subject to the requirements hereinafter imposed.

(f) Terra cotta will not be permitted in the construction of any smoke flue, chimney or chimney stack nor in any part thereof. Fire clay brick may be used subject to the requirements hereinafter imposed.

Section 1338. (a) Walls of smoke flues, chimneys and chimney stacks hereafter erected and constructed when built of brick shall be built of hard brick and shall have struck joints. Where impossible to strike the joints the mortar shall be cut flush with the face of the flue wall.

(b) No such smoke flues, chimneys or chimney stacks shall be plastered or parged on the inside with mortar.

(c) Smoke flues shall be plastered on the outside where they pass horizontally and vertically through floors and partitions and where they pass between joists and rafters, and there shall be no openings, in their length between the joists and the rafters, (commonly known as the garret or attic), for any purpose whatever.

Section 1339. No joists, beams, girders or wood furring shall hereafter be supported on or be against flue walls. The framing around flue walls shall be so constructed that no wood or timber is

placed nearer than two (2) inches from the outside face of such walls. The distance from the inside of any smoke flue to any wood joist or timber shall be not less than thirteen (13) inches.

Section 1340. Smoke flues built in or as a part of any building hereafter erected or constructed shall have a chimney or chimney stack.

Section 1341. (a) Chimneys and chimney stacks hereafter erected and constructed shall extend not less than three (3) feet above the top of flat roofs, parapet walls, bulkheads or other structures that may be on such roofs with the exception of water tanks; and shall extend not less than two (2) feet above the highest point of peaked roofs.

(b) Chimneys and Chimney stacks shall be topped out with water proof coping.

(c) Chimneys and chimney stacks emitting fire, ashes or cinders shall be subject to such regulations as the State Building Commissioner or Chief Building Inspector may impose, and when deemed necessary shall be equipped with approved spark arresters.

Section 1342. (a) Chimneys and chimney stacks hereafter erected and constructed built in or connected to a building shall be supported by the smoke flue of which they are a part. Isolated chimney stacks shall be supported directly from the ground as may be approved by the State Building Commissioner or Chief Building Inspector.

(b) All chimneys and chimney stacks shall be adequately braced and guyed subject to the approval of the State Building Commissioner or Chief Building Inspector and when in his opinion it shall be deemed necessary.

Section 1343. (a) Smoke flues hereafter erected and constructed may be corbelled out not more than eight (8) inches; provided that, such corbelling shall not exceed one and one-half ( $1\frac{1}{2}$ ) inches for every course of brick or equivalent material. Where the walls of smoke flues are not more than eight (8) inches thick they may be corbelled out not to exceed four (4) inches.

(b) Smoke flues shall be bonded throughout their entire length to the wall or walls of the building of which they are a part.

(c) Piers which support chimney stacks or smoke flues shall start from the foundation on the same face with the breast above.

(d) Smoke flues shall not be corbelled out or raked over where they pass between floors, rafters or partitions. Raking of smoke flues shall occur in the smoke flue breast.

(e) No timbers or girders shall be supported in pockets in the walls adjacent to smoke flues nearer than two (2) feet from the inside face



of the flue opening but shall be supported by shelves, hangers, piers or stirrups.

(f) The thickness of brick, stone or concrete flue walls for smoke flues, chimney and chimney stacks of different cross section of flue opening shall be not less than the following:

Area of flue opening.	Thickness of wall.
144 square inches and less, .....	8 inches.
144 to 300 square inches, .....	12 inches.
300 to 600 square inches, .....	16 inches.

Section 1344. (a) In buildings of Class V hereafter erected and constructed smoke flues, chimneys and chimney stacks may be built of iron or steel, lined or unlined.

(b) Where such chimneys and chimney stacks pass through roofs or near girders or other adjacent timbers they shall be protected in a manner subject to the approval of the State Building Commissioner or Chief Building Inspector and subject to the approval of the Local or State Fire Marshal, and where passing through stores or other buildings or parts thereof containing combustible material they shall be protected on all sides by not less than eight (8) inches of brick, stone or concrete.

(c) Where such smoke flue, chimney or chimney stack passes through the roof it shall be separated from the woodwork thereof by an open air space one (1) foot larger on all sides than the chimney, chimney stack or smoke pipe. Such open space may be roofed over with a hood constructed of approved fire-resistive materials, and placed not less than one (1) foot above the roof at all points and supported directly and solely by the chimney, chimney stack or smoke pipe.

Section 1345. (a) Smoke flues, chimneys and chimney stacks hereafter erected and constructed shall have a flue opening with a least dimension of not less than eight (8) inches; except that where smoke flues are used for gas stoves or gas grates, and where lined with fire brick such least dimension may not be less than four (4) inches. Where such smoke flues are used for a furnace, steam or hot water boiler or laundry dry stove, the dimensions of such flue openings shall be not less than eight (8) inches by twelve (12) inches.

Section 1346. (a) In smoke flues hereafter erected and constructed the fire backs of fire places shall be constructed of a single stone not less than eight (8) inches thick.

(b) When a grate is set in the fire place a lining of fire brick at least two (2) inches thick shall be added to the fire back unless soapstone, tile or iron is used filled in solidly behind with some approved fire-resistive materials.

Section 1347. Smoke flues hereafter erected and constructed built of masonry shall have arched pipe inlets constructed of fire clay brick.

Section 1348. (a) Smoke pipes hereafter installed shall not pass through any floor or roof constructed of other than approved fire-resistive materials.

(b) Smoke pipes for cook stoves, hot air furnaces, low pressure steam or hot water boilers shall not be located within less than twelve (12) inches of any joists, rafters, partitions or ceilings constructed of wood or of wood and plaster or any other combustible material.

(c) Where such a smoke pipe passes through a partition constructed of other than approved fire-resistive materials a section of the partition shall be removed, and such smoke pipe shall be so placed that no part of it shall be a less distance from any portion thereof than the diameter of the smoke pipe. The section of the partition so removed shall be filled in with some approved fire-resistive materials.

(d) Such smoke pipes for high pressure steam boilers and furnaces which produce a high degree of heat, if placed nearer than thirty-six (36) inches to any wall, ceiling, floor or other construction which is composed of other than approved fire-resistive materials, shall be covered with at least three (3) inches of asbestos or with at least three (3) inches of some other approved fire-resistive material. but in no case shall any such smoke pipe be nearer than eighteen (18) inches to any such construction.

Section 1349. (a) Hearths of smoke flues hereafter erected and constructed shall be supported by trimmer arches of brick, stone, iron or concrete, or shall be of single stone at least eight (8) inches thick. Such arches shall be built into the smoke flue and be supported by iron beams, one end of which shall be securely built into the masonry or into an adjoining wall or shall be supported by a support constructed of approved fire-resistive materials.

(b) The brick jambs of fire places or grate openings shall be at least nine (9) inches in width each, and the backs of such openings shall be at least nine (9) inches thick. All hearths and trimmer arches shall be at least twelve (12) inches longer on either side than the width of such openings and at least eighteen (18) inches wider than the smoke flue braces.

(c) Brick work over fire places and grate openings shall be supported by iron or by brick or stone arches.

(d) All brick-set or portable ranges shall be set on hearths of brick, slate or cement; such hearth to extend at least twelve (12) inches beyond the face of the range. No brick-set or portable range or heating apparatus of any kind shall be set against a partition constructed of wood or wood lath and plaster or other non fire-resistive material.



Section 1350. (a) In smoke flues hereafter erected and constructed all smoke inlets when not in actual use shall be tightly bricked up.

(b) No smoke inlet will be permitted in any attic.

Section 1351. In buildings hereafter erected closets will not be permitted where one (1) of the walls of a closet is a smoke flue or constitutes one (1) of the walls of a smoke flue.

Section 1352. Smoke flues, chimneys, chimney stacks and heating apparatus hereinafter erected or constructed which in the opinion of the State Building Commissioner or Chief Building Inspector are unsafe shall be subject to be taken down or repaired as may be approved by such State Building Commissioner or Chief Building Inspector.

(b) It shall be the duty of the owner of any building or structure or his agent to keep smoke flues, chimneys and chimney stacks connected therewith in good repair.

Special Requirements for Smoke Flues, Chimneys, Chimney Stacks,  
Smoke Pipes and Fire Places, Hearths Prior Erected  
and Constructed.

Section 1353. In addition to the following requirements relating to smoke flues, chimneys, chimney stacks, smoke pipes, fire places and hearths prior erected and constructed, all such smoke flues, chimneys, chimney stacks, smoke pipes, fire places, and hearths shall be subject to such rules and regulations as, in the opinion of the State Building Commissioner or Chief Building Inspector or the Local or State Fire Marshal, may be deemed necessary for the protection and preservation of life and property.

Section 1354. All smoke flues, chimneys, chimney stacks, smoke pipes, fire places, and hearths shall be kept in good repair, and where smoke pipes pass through partitions, ceilings, floors, and roofs or where they pass near any combustible material they shall be properly and suitably protected by a covering of approved fire-resistive materials, subject to the approval of the State Building Commissioner or Chief Building Inspector.

Section 1355. Smoke inlets to smoke flues in attics will not be permitted. All such inlets shall be tightly bricked up with brick work subject to the approval of the State Building Commissioner or Chief Building Inspector.

Section 1356. Closets will not be permitted where one (1) of the walls forming the closet contains a smoke flue or constitutes one (1) of the walls of a smoke flue.

## ARTICLE XXVII.

### Special Requirements for Heating and Ventilating in Buildings Hereafter Erected.

Section 1357. No heating system and no ventilating system where required in this act shall be hereafter installed in buildings hereafter or prior erected except in compliance with the provisions of this act.

Section 1358. (a) Where ventilating systems are hereafter installed the fresh air supply shall be taken from outside the building, and no vitiated air shall be reheated.

(b) The vitiated air shall be conducted through flues or ducts to and be discharged above the roof of the building, and when a mechanical system of ventilating is used the vitiated air may be discharged through openings placed in the external walls of the building, subject to the approval of the State Building Commissioner or Chief Building Inspector, or the Local or State Fire Marshal.

Section 1359. (a) Where a gravity indirect system of heating is installed the fresh air supply shall be taken from two (2) different sides of the building, and where a mechanical system of heating is installed the fresh air may be taken from one (1) or more sides of the building.

(b) All fresh air openings shall be covered with screens made of fine copper wire with nine hundred (900) meshes to the inch except where an air washing device is used.

(c) All fresh air openings within thirty (30) feet of any other building, structure or lot line shall be provided with approved automatic rolling steel shutters or approved automatic fire doors or with dampers held open by a combustible cord.

Section 1360. (a) No ventilating flue, fresh air flue or duct or warm air flue or duct shall be constructed of wood or any other combustible material nor shall any vitiated air, warm air or fresh air be conducted through void spaces, stud walls, furring, stripped floor construction or conducted through other parts of the building that are constructed of or contain combustible materials.

(b) No ventilating flue or duct shall serve more than one (1) room; except where a mechanical ventilating system is used and the flues or ducts are connected to the fan or to a common flue leading to the fan, provided such connections are made above the story or part of the building that the system is installed to serve; and provided further that, there are no other openings in such common flue.



Department of Health, and no heating or ventilating system shall be installed until such approval shall be first had and obtained.

#### Special Requirements for Heating and Ventilating in Buildings Prior Erected.

Section 1370. Where heating and ventilating systems have been used in buildings prior erected, the State Building Commissioner or Chief Building Inspector, or the Local or State Fire Marshal, or the Local Board of Health or State Department of Health may from time to time order such changes or alterations to be made as, in their opinion, may be necessary to protect and preserve life, property and health; provided that, where said changes or alterations are made they shall be made as nearly as possible in conformity with the requirements of this act for heating and ventilating in buildings hereafter erected.

### ARTICLE XXVIII.

#### Special Requirements for Sanitation and Plumbing in Buildings and Structures Hereafter Erected and Constructed.

Section 1371. From and after the passage of this act, the construction of plumbing, house drainage, and cesspools shall be conducted only under and in accordance with the following rules, regulations, and requirements, namely:

Section 1372. There shall be a separate plan for each building, public or private, or any addition thereto or alterations thereof, accompanied by specifications showing the location, size and kind of pipe, traps, closets, and fixtures to be used, which plans and specifications shall be filed with the Local Board of Health or State Department of Health. The said plans and specifications shall be furnished by the architect, plumber, or owner, and filed by the plumber. All applications for change in plans must be made in writing.

Section 1373. Plumbers before commencing the construction of plumbing work in any building in the said cities (except in case of repairs, which are here defined to relate to the mending of leaks in soil, vent, or waste pipes, faucets, valves and water-supply pipes, and shall not be construed to admit of the replacing of any fixture, such as water-closet, bath-tubs, wash-stands, sinks, et cetera, or the respective traps for such fixtures), shall submit to the Local Board of Health or State Department of Health plans and specifications, legibly drawn in ink, on blanks to be furnished by said board or department. Where two (2) or more buildings are located together and on the same street, and the plumbing work is identical in each,

one plan will be sufficient. Plans will be approved or rejected within twenty-four (24) hours after their receipt.

Section 1374. It shall be the duty of every person constructing or owning any drain, soil-pipe, passage or connection, between a sewer and any ground, building, erection, or place of business, and in like manner the duty of the owners of all grounds, buildings, erections, and of all parties interested therein or thereat, to cause and require that such drain, soil-pipe, passage or connection shall be adequate for its purpose, and shall at all times allow to pass freely all material that enters or should enter the same; and no change or drainage, sewerage, or the sewer connections of any house shall be permitted, unless notice thereof shall have been given the Local Board of Health or State Department of Health, and assent thereto obtained in writing.

Section 1375. Drainage, sewerage, or plumbing work must not be covered or concealed in any manner until after it is inspected and approved by the Local Board of Health or State Department of Health. Notice must be given to such Local Board of Health or State Department of Health, upon blanks to be furnished by such Local Board of Health or State Department of Health, when the work is sufficiently advanced for such inspection; when it shall be the duty of the proper officers to inspect the same within three (3) days after receipt of said notice.

Section 1376. (a) The main drainage system of every house or building shall be separately and independently connected with the street sewer, where such sewer exists; but where there is no sewer in the street, and it is necessary to construct a private sewer to connect with sewer on adjacent street, such plans may be used as may be approved by the Local Board of Health or State Department of Health, but in no case shall joint drains be laid in cellars, parallel with the street or alley.

(b) House drains or soil-pipes, laid beneath floors, must be of extra heavy cast iron pipe with leaded and caulked joints, and carried five (5) feet outside cellar wall. All drains or soil-pipes connected with main drain where it is above the cellar floor shall be of extra heavy cast-iron pipe, with leaded and caulked joints, or of heavy wrought iron pipe, with screw joints properly secured, and carried five (5) feet outside cellar wall; and all arrangements of soil, or waste-pipes shall be as direct as possible. Wrought iron pipes shall be asphalted, galvanized, or otherwise made rustless. Changes of direction on pipes shall be made with "Y" branches, both above and below the ground, and where such pipes pass through a new foundation wall, a relieving arch shall be built over it, with a two (2) inch space on either side of main pipe.



(c) The size of the main house drain shall be determined by the total area of the buildings and paved surfaces to be drained, according to the following table, if iron pipe is used. If the pipe is terra cotta, the diameter shall be one one (1) size larger for the same amount of area drainage:

Diameter—Inches.	Fall $\frac{1}{4}$ In. Per Foot.	Fall $\frac{1}{8}$ In. Per Foot.
	Square feet drain- age area.	Square feet drain- age area.
4, .....	1,800	2,500
5, .....	3,000	4,500
6, .....	5,000	7,500
8, .....	9,100	13,600
10, .....	14,000	20,000

(d) The main house drains may be decreased in diameter beyond a rain-water conductor or surface inlet by permission of the Local Board of Health or State Department of Health, when the plans show that conditions are such as to warrant such decrease; but in no case shall the main house drain be less than four (4) inches in diameter.

(e) The walls for pit where one (1) closet is installed may be four (4) inches in thickness, or salt-glazed sewer-pipe, thirty-six (36) inches in diameter, may be used. Where pit is for more than one (1) closet, the walls shall be nine (9) inches in thickness. The soil-pipe and traps used inside pit must be extra heavy cast iron, and the trap to have a hand hole for cleanout purposes, with cleanout caulked in. If the closet is located in the rear of a soil, or vent-pipe, the drain on which it is located shall be vented with a four (4) inch pipe, carried above roof of closet, away from any opening or window. All outside closets shall be of the tank pattern. The water to be supplied to tank through automatic seat-action valve. The waste from valve may be permitted to discharge on cement floor of pit, which shall be provided with four (4) inch trap and strainer. The enclosure of outside water-closets shall be ventilated by slatted openings, and there shall be a trap door of sufficient size to permit of convenient access to the hopper-pit.

Section 1377. The house drain must be provided with a horizontal trap, placed immediately inside the cellar wall. The trap must be provided with a hand-hole for convenience in cleaning, the cover of which must be properly fitted and made gas and air tight, with heavy

brass screw cap ferrule, caulked in. This class of traps shall be subject to the approval of the Local Board of Health or State Department of Health.

Section 1378. A fresh air inlet must be connected with the house drain just inside of the house trap. Where underground, it must be of extra heavy cast iron. Said inlet must lead to the outer air, and finish with an automatic device approved by the Local Board of Health or State Department of Health, at a point just outside the front wall of building. The fresh air inlet must be of the same size as the drain, up to four (4) inches. For five (5) and six (6) inch drains it must be not less than four (4) inches in diameter; for seven (7) and eight (8) inch drains, not less than six (6) inches in diameter, or its equivalent; and for larger drains, not less than eight (8) inches in diameter, or its equivalent.

Section 1379. House sewers and house drains must, where possible, be given an even grade to the main sewer of not less than one-quarter ( $\frac{1}{4}$ ) of an inch per foot.

Section 1380. When main sewer is not located on street, house sewers must be constructed on outside of building, and branch into each house separately, and in no case will the sewer from one (1) house to another be permitted to run through cellars.

Section 1381. Where the ground is of sufficient solidity for a proper foundation, cylindrical terra cotta pipe of the best quality, free from flaws, splits, or cracks, perfectly burned, and well glazed over the entire inner and outer surfaces, may be used, if laid on a smooth bottom, with a special groove cut in the bottom of the trench for each hub, in order to give the pipe a solid bearing on its entire length, and the soil well rammed on each side of the pipe. The spigot and hub ends shall be connected. The space between the hub and pipe must be thoroughly filled with cement mortar, made of equal parts of the best American natural cement and bar sand, thoroughly mixed dry, and enough water afterwards added to give proper consistency. The mortar must be mixed in small quantities, and used as soon as made. The joints must be carefully wiped out and pointed, and all mortar that may be left inside removed, and the pipe left clean and smooth throughout, for which purpose a swab may be used. It must not be laid closer than five (5) feet to any exterior wall of a building, or less than three and one-half ( $3\frac{1}{2}$ ) feet below the surface of the ground, or when the sewer passes near a well, nor will it be allowed in bad or made ground.

Section 1382. Where a sewer is laid between buildings, in a passageway, alley, or court, at a less distance than five (5) feet from the building, it must be constructed of extra heavy cast iron pipe,



for a distance corresponding to the length of the foundation of said buildings.

Section 1383. Floor or other drains will only be permitted when it can be shown, to the satisfaction of the Local Board of Health or State Department of Health, that their use is absolutely necessary, and arrangements made to maintain a permanent water-seal in the traps, and be provided with check or back-water valves.

Section 1384. (a) All cast iron pipes must be sound, free from holes, and of a uniform thickness, known as "extra heavy" pipe, and corresponding fittings will be required. The pipe must be tested to fifty (50) pounds water pressure, and marked with the maker's name.

(b) Pipes shall weigh as follows, namely:

Two (2) inch pipe, five and one-half ( $5\frac{1}{2}$ ) pounds per lineal foot.

Three (3) inch pipe, nine and one-half ( $9\frac{1}{2}$ ) pounds per lineal foot.

Four (4) inch pipe, thirteen (13) pounds per lineal foot.

Five (5) inch pipe, seventeen (17) pounds per lineal foot.

Six (6) inch pipe, twenty (20) pounds per lineal foot.

Seven (7) inch pipe, twenty-seven (27) pounds per lineal foot.

Eight (8) inch pipe, thirty-three and one-half ( $33\frac{1}{2}$ ) pounds per lineal foot.

Ten (10) inch pipe, forty-five (45) pounds per lineal foot.

Twelve (12) inch pipe, fifty-four (54) pounds per lineal foot.

Section 1385. Subsoil drains must discharge into a sump or receiving tank, the contents of which must be lifted and discharged into the drainage system above the cellar floor by some approved method. When directly sewer connected, they must be cut off from the rest of the plumbing system by a brass flap-valve on the inlet to the catch-basin, and the trap on the drain from the catch-basin must be water supplied, as required for cellar drain.

Section 1386. All yards, areas, and courts must be drained. Tenement houses and lodging houses must have the yards, areas, and courts drained into the sewer. These drains, when sewer connected, must have connection not less than four (4) inches in diameter. They should be controlled by one (1) trap, the leader trap, if possible.

Section 1387. Old house drains and sewers may be used, in connection with new buildings or new plumbing, only when they are found, on examination by the Local Board of Health or State Department of Health, to conform in all respects to the requirements governing new sewers and drains. All extensions to old house drains must be of extra heavy cast iron pipe.

Section 1388. All buildings shall be kept provided with proper metallic leaders, for conducting water from the roofs in such manner as shall protect the walls and foundations of said building from in-

jury. In no case shall the water from said leaders be allowed to flow upon the sidewalk, but the same shall be conducted by a pipe or pipes to the sewer. If there be no sewer in the street upon which such buildings front, then the water from said leaders shall be conducted, by proper pipe or pipes below the surface of the sidewalk, to the street gutter.

Section 1389. Inside leaders must be constructed of cast iron, wrought iron, or steel, with roof connections made gas and water tight by means of a heavy lead or copper-drawn tubing, wiped or soldered to a brass ferrule, or nipple caulked, or screwed into the pipe. The tubing must extend at least seven (7) inches into iron leader pipe. Outside leaders may be sheet metal, but they must connect with the house drain by means of a cast iron pipe extending vertically five (5) feet above the grade level.

Section 1390. All leaders must be trapped with cast iron running traps, so placed as to prevent freezing.

Section 1391. Rain water leaders must not be used as soil, waste, or vent-pipes, nor shall such pipes be used as a leader.

Section 1392. No steam exhaust, blow-off, or drip pipe shall connect with a sewer or house drain leader, soil-pipe, waste, or vent-pipe. Such pipes must discharge into a tank or condenser, from which suitable outlet to the sewer shall be made. Such condensers shall be water supplied, to help condensation and protect the sewer, and shall also be supplied with relief vent to carry off dry steam.

Section 1393. (a) The smallest diameter of any soil-pipe permitted to be used shall be four (4) inch. The size of soil-pipes must be not less than those set forth in the following tables:

Maximum number of fixtures connect to—

Size of Pipe—Inches.	Soil and Waste Combined.		Soil-Pipe Alone.	
	Branch.	Main.	Branch.	Main.
	Fixtures.	Waterclosets.	Fixtures.	Waterclosets.
4. ....	43	96	8	16
5. ....	96	192	16	32
6. ....	298	336	34	68



Traps for washstands, one and one-fourth ( $1\frac{1}{4}$ ) inches in diameter. All bath-tubs shall be supplied with drum-trap, not less than three (3) inches in diameter, with three (3) inch trap-screws on floor line. In case where an additional fixture is required in a building, and it is impossible to get re-vent pipes for the trap, the Local Board of Health or State Department of Health shall designate the kind of trap to be used. This shall not be construed to allow traps without re-vents in new buildings.

Section 1400. (a) Safe waste-pipes must not connect directly with any part of the plumbing system. Safe waste-pipes must discharge over an open, water supplied, publicly placed, ordinarily used sink, placed not more than three and one-half ( $3\frac{1}{2}$ ) feet above the cellar floor. The safe waste from a refrigerator must be trapped at the bottom of the line only, and must not discharge upon the ground floor, but over an ordinary portable pan, or some properly trapped, water supplied sink, as above. In no case shall the refrigerator waste-pipe discharge over a sink located in a room used for living purposes.

(b) The branches on vertical lines must be made by "Y" fittings, and be carried to the safe with as much pitch as possible. Where there is an offset on a refrigerator waste-pipe in cellar, there must be cleanouts to control the horizontal part of the pipe.

(c) In tenement houses and lodging houses the refrigerator waste-pipes must extend above the roof, and be not larger than one and one-half ( $1\frac{1}{2}$ ) inches, nor the branches less than one and one-quarter ( $1\frac{1}{4}$ ) inches. Refrigerator waste-pipes, except in tenement houses, and all safe waste-pipes, must have brass flap-valves at their lower ends. Lead safes must be graded, and neatly turned over beveled strips at their edges.

Section 1401. All vent-pipes must be either of lead, brass, loricated porcelain, enameled iron, or galvanized iron pipe.

Section 1402. (a) All traps shall be protected from siphonage or air pressure by special vent-pipes, of a size not less than the following tables:

Size of Pipe. Inch Vent.	Maximum Developed Length in Feet.		Number of Traps Vented.	
	Mains.		Branch.	Main vertical.
1 $\frac{1}{2}$ .....	20, .....	1, .....	1, .....	
1 $\frac{3}{4}$ .....	40, .....	2 or less .....	2 or less .....	
2 .....	65, .....	10 or less .....	10 or less .....	20 or less
2 $\frac{1}{2}$ .....	100, .....	20 or less .....	20 or less .....	40 or less
3 .....	10 or more stories, .....	60 or less .....	60 or less .....	100 or less

(b) The branch vent-pipes shall be not less than the following sizes:

One and one-quarter ( $1\frac{1}{4}$ ) inches in diameter, for one and one-quarter ( $1\frac{1}{4}$ ) inch traps.

One and one-half ( $1\frac{1}{2}$ ) inches in diameter, for one and one-half ( $1\frac{1}{2}$ ) inch to two and one-half ( $2\frac{1}{2}$ ) inch traps.

Two (2) inches in diameter, for three (3) inch to four (4) inch traps.

One-half ( $\frac{1}{2}$ ) their diameter, for traps five (5) inches and over.

(c) Where two (2) or more water-closets are placed side by side on a horizontal branch, the branch line shall have a relief extended as a loop vent. A pipe two (2) inches in diameter will be sufficient as a loop vent for two (2) closets. A pipe three (3) inches in diameter shall be used as a relief for three (3) or four (4) closets; and where more than four (4) closets are located on the same branch the relief shall be not less than four (4) inches in diameter. All house drains and soil lines on which a water-closet is located must have a four (4) inch main vent line. Where an additional closet is located in the cellar or basement, and within ten (10) feet of main soil or vent line no relief vent will be required for said closet; but where it is more than ten (10) feet, a two (2) inch vent line will be required. Relief vent pipes for water-closets must be not less than two (2) inches in diameter, for a length of forty (40) feet, and not less than three (3) inches in diameter for more than forty (40) feet.

(d) No revent from traps under bell-traps will be required.

(e) Any building having a sewer connection with a public or private sewer used for bell-trap connections or floor drainage only, a two (2) inch relief line must be extended to the roof of building from rear end of main drain. House drains constructed for roof drainage only, will not require a relief vent.

(f) A floor trap for a shower shall be vented, unless located in cellar or ground floor, the paving of which renders the trap inaccessible. If the number of these fixtures on a branch is two (2) or more, the waste line shall be extended as a loop vent, instead of back venting the separate traps; and when located in basement floor, they shall be provided with a removable strainer or cleanout. Back-vent pipes, from traps above the floor, must either be connected with crown of trap with ground-in brass coupling, or, if connected solidly to trap, must have a ground-in brass coupling at wall.

Section 1403. Where rows of fixtures are placed in a line, fittings of not less than forty-five (45) degrees to the horizontal must be used on vent lines to prevent filling with rust or condensations; except on brick or tile walls, where it is necessary to channel same for pipes, ninety (90) degree fittings will be allowed. Trapped vent-pipes are



strictly prohibited. No vent-pipes from house side of any trap shall connect with ventilation pipe, or with sewer-, soil-, or waste-pipe. Vent-pipes from several traps may be connected together, or may be carried into the main vent line above the highest fixture. Where one (1) vertical vent line connects with another, a "Y" fitting must be used. Branch vent-pipes must be connected as near to crown of the trap as possible.

Section 1404. All offsets on vent line must be made at an angle of not less than forty-five (45) degrees to the horizontal, and all lines must be connected at the bottom with a soil- or waste-pipe, or the drain, in such manner as to prevent the accumulation of rust, scale, or condensation.

Section 1405. Rubber connections for back vents will not be permitted, without double coupling and thimble inside.

Section 1406. No brick, sheet metal, or earthen ware flue, or smoke flue, shall be used as a sewer ventilator, or to ventilate any trap, drain, soil, or waste-pipe.

Section 1407. Soldering nipples must be extra heavy brass, or brass pipe, iron pipe size.

Section 1408. Brass screw caps for cleanouts must be extra heavy, not less than one-eighth ( $\frac{1}{8}$ ) of an inch thick. The screw cap must have a solid square or hexagonal nut, not less than one (1) inch high. The body of cleanout ferrule must at least equal in weight and thickness the caulking ferrule for the same size pipe.

Section 1409. Brass ferrules must be of best quality, bell shaped, extra heavy cast-brass, not less than four (4) inches long, and two and one-quarter ( $2\frac{1}{4}$ ) inches, three and one-half ( $3\frac{1}{2}$ ) inches thick, and four and one-half ( $4\frac{1}{2}$ ) inches in diameter, and not less than the following weights:

Diameter two and one-quarter ( $2\frac{1}{4}$ ) inches, weight one (1) pound.

Diameter three and one-half ( $3\frac{1}{2}$ ) inches, weight one (1) pound twelve (12) ounces.

Diameter four and one-half ( $4\frac{1}{2}$ ) inches, weight two (2) pounds eight (8) ounces.

Section 1410. The closet and all other fixtures must be set open, and free from all enclosing wood or other work. Where water-closets will not support a rim seat, the seat must be supported on galvanized iron legs, and a drip tray must be used, which tray must be porcelain, enameled on both sides and secured in place. In tenement houses and lodging houses, sinks must be entirely open, set on iron legs or brackets, without any inclosing wood or other work.

Section 1411. Pan, plunger or hopper closets will not be permitted in any building. No range closet, either wet or dry, nor an evaporating system of closets, shall be constructed or allowed inside of any building. A separate building, constructed especially for the purpose, must be provided in which such range closets shall be set.

Section 1412. All earthenware traps must have heavy brass floor plates, soldered to the lead bends and bolted to the trap flange, and the joint made permanently secure and gas tight.

Section 1413. Water-closets must not be located in sleeping rooms, nor in any room nor compartment which has not direct communication with external air, either by window or air shaft of at least four (4) square feet.

Section 1414. No water-closets, except those placed outside of the building, and flushometer, volumeters, or similar devices shall be supplied directly from the supply pipes.

Section 1415. All water-closets must have flushing rim-bowls. Water-closets to be supplied from flushing tanks.

Section 1416. Water-closets within buildings shall be supplied with water from special tanks or cisterns, which shall hold not less than six (6) gallons, when filled to the level of the overflow pipe, for each closet supplied, excepting automatic or siphon-tanks, which shall hold not less than five (5) gallons for each closet supplied. A group of closets may be flushed from one (1) tank, but water-closets on different floors must not be flushed from the same tank, except flushometers, volumeters, or similar devices. The water in said tanks must not be used for any other purpose.

Section 1417. In no case will the water-closet system of tenement houses or lodging houses be permitted in cellars, basements, or under sidewalks.

Section 1418. In all sewer connected, occupied buildings there must be at least one (1) water-closet, and there must be additional closets so that there never will be more than fifteen (15) persons per closet. In lodging houses, where there are more than fifteen (15) persons on any floor, there must be an additional water-closet on that floor for every fifteen (15) additional persons, or fraction thereof.

Section 1419. In tenement houses, lodging houses, factories, workshops, and all public buildings, the entire water-closet compartments and side walls, to a height of sixteen (16) inches from the floor, except at the door, must be made water-proof with asphalt, cement, tile, or other water-proof material, as approved by the Local Board of Health or State Department of Health. In tenement houses and



lodging houses, the water-closet and urinal compartments must have a window or windows opening into the outer air, of sufficient size, all of which shall be shown on plans, and shall be subject to the approval of the Local Board of Health or State Department of Health. Except that tenement houses or lodging houses, three (3) stories or less in height, may have such window opening on a vent shaft, not less than ten (10) feet square in area. In all buildings, the outer partition of such compartments must extend to the ceiling, or be independently ceiled over, and these partitions must be air tight. The outside partitions must include a window opening to the outer air on the lot whereon the building is situated; or some other approved means of ventilation, subject to the approval of the Local Board of Health or State Department of Health, must be provided. When necessary to properly light such compartments, the upper part of the partitions must be of glass. The interior partitions of such compartments must be dwarf partitions.

Section 1420. All urinals must be constructed of materials impervious to moisture and that will not corrode under the action of urine. The floor and walls of urinal compartments must be lined with similar non-absorbent and non-corrosive material.

Section 1421. The platforms or treads of urinal stalls must not be connected independently to the plumbing system, nor can they be connected to any safe waste-pipe.

Section 1422. Iron trough water-closets and trough urinals must be porcelain, enameled, or galvanized cast-iron.

Section 1423. All water-closets and other fixtures must be provided with a sufficient supply of water for flushing, to keep in a proper and cleanly condition.

Section 1424. Water-closet flush pipes must be not less than one and one-quarter ( $1\frac{1}{4}$ ) inches, and urinal flush pipes one-half ( $\frac{1}{2}$ ) inch in diameter.

Section 1425. The copper lining of water-closet and urinal cisterns must be not lighter than twelve (12) ounce copper, and must be stamped on lining with maker's name. Where lead is used for lining it must not weigh less than four (4) pounds to the square foot. All other materials are prohibited.

Section 1426. Wooden wash trays, sinks, or bath tubs are prohibited inside of buildings. Such fixtures must be constructed of non-absorbent material. Cement or artificial tubs will not be permitted, unless approved by the Local Board of Health or State Department of Health.

Section 1427. Water-closets when located outside of the building must be arranged so as to be conveniently and adequately flushed, and the water supply pipes and traps protected from freezing by being placed in a hopper-pit, at least four (4) feet below the surface of the ground, the walls of which pit shall be constructed of hard burned brick or stone laid in cement or mortar, or of concrete, and traps inside pit must be extra heavy cast-iron, and the trap to have a hand-hole for cleanout purposes. The closet drain to be vented, with a four (4) inch pipe and carried up above the roof of closet, away from any opening or window. The water shall be supplied through an automatic seat-action valve. The waste water from valve shall be conveyed to the sewer through a half-inch lead pipe, properly connected. The enclosures of outside water-closets shall be ventilated by slatted openings, and there shall be a trap door in floor of sufficient size to permit of convenient access to the hopper-pit.

Section 1428. No privy vault or cesspools for sewage shall hereafter be constructed where a sewer is at all accessible, which shall be determined by the Local Board of Health or State Department of Health; nor shall it be lawful to continue a privy vault or cesspool on any lot, piece, or parcel of ground abutting on or contiguous to any public sewer. The Local Board of Health or State Department of Health shall have the power to issue notice, giving at least three (3) months' time to discontinue the use of any cesspool and have it cleaned and filled up. No connection from any cesspool or privy vault shall be made with any sewer; nor shall any water-closet or house drain empty into a cesspool or privy vault.

Section 1429. In rural districts, or districts where no sewer exists, privy vaults shall not be located within two (2) feet of party or street line, nor within twenty (20) feet of any building. Before any privy vault shall be constructed, application for permission shall be made to the Local Board of Health or State Department of Health, and such privy vault shall have nine (9) inch walls, constructed of hard burned brick, or stone, laid in Portland cement mortar or of concrete with bottom and sides cemented so as to be water-tight; size to be not less than four (4) feet in diameter and six (6) feet deep.

Section 1430. All material used in the work of plumbing and drainage must be of good quality and free from defects. The work must be executed in a thorough and workmanlike manner.

Section 1431. Whenever it shall come to the knowledge of the Local Board of Health or State Department of Health or Whenever complaint shall be made in writing by any citizen that the plumbing or drainage in any building has become a nuisance or is contrary to the provisions of this act, or is of faulty construction and liable to



breed disease or dangerous to the health of the occupants, then the Local Board of Health or State Department of Health shall make an examination of the plumbing and drainage and shall notify the owner or agent of any such building of the changes that are necessary to be made in said plumbing or drainage. Such changes shall be made within the time fixed by the Local Board of Health or State Department of Health, and upon refusal to make such changes the Local Board of Health or State Department of Health shall institute proceedings to have such changes made and said nuisance abated by action before a justice of the peace or a court of record; in which said action, the owner or agent may show that the plumbing or drainage was not contrary to the provisions of this act.

Section 1432. When drain, soil, waste, vent and other pipes in the building, connected or to be connected with the sewer, have been placed in position, a preliminary water or air test of the same shall be applied in the presence of an officer of the Local Board of Health or State Department of Health.

Section 1433. When the work has been completed, a final notice shall be filed with the Local Board of Health or State Department of Health, when a final air or peppermint test shall be made in the presence of an officer of said Board or Department; when, if found satisfactory, a certificate of approval of the work will be issued; but no such plumbing or drainage work or system shall be used until said test has been made and certificate issued.

Section 1434. When work is ready for inspection the plumbing contractor shall make such arrangements as will enable the proper officer to reach all parts of the building easily and readily, and also have present the proper apparatus and appliances for making said tests, and furnish such assistance as may be necessary to a proper application of the same.

Section 1435. In case of any dispute or difference of opinion existing between the Local Board of Health or State Department of Health and any person, firm or corporation, as aforesaid, regarding the construction of plumbing, house drainage, or cesspools, the same shall be submitted by either party to the Director of the Department of Public Health and Charities, if there is such an officer, or the presiding officer of the Local Board of Health or State Department of Health, who shall pass upon the same, and whose findings therein, after hearing, shall be final and conclusive upon all parties.

Section 1436. The State Department of Health and the Local Board of Health by and with the consent and approval of the State Department of Health shall have power to make such rules and regulations and changes in the foregoing specifications relative to

the construction of the plumbing and house drainage as said State Department of Health or Local Board of Health may from time to time determine to be necessary or advisable for the better protection of the safety or health of the occupants of any house or the community.

#### ARTICLE XXIX.

##### Special Requirements for Electric Wiring and Apparatus Hereafter Constructed and Installed.

Section 1437. (a) It shall be the duty of the State Building Commissioner and of the Chief Building Inspector by and with the consent and approval of the State Building Inspector, to make uniform rules and regulations governing the construction and installation of electric wiring and electric apparatus, and such State Building Commissioner and such Chief Building Inspector by and with the consent and approval of the State Building Commissioner shall, from time to time, and as often as may, in his judgment, be necessary, make such changes in such rules and regulations as may be necessary to bring the requirements for electric wiring and apparatus up to the most modern practice in electrical engineering. Such rules and regulations shall be reduced to writing and kept on file for public inspection. No electric wiring or electric apparatus shall be installed except in accordance with such rules and regulations.

##### Special Requirements for Electric Wiring and Apparatus Prior Constructed and Installed.

Section 1438. Wherever it may become necessary to make alterations or repairs to electric wiring or apparatus prior constructed and installed such alterations and repairs shall be made in accordance with the rules and regulations promulgated by the State Building Commissioner or Chief Building Inspector for electric wiring and apparatus hereafter constructed and installed; except that, the State Building Commissioner or Chief Building Inspector may, in his discretion, permit reasonable deviations therefrom, where from the nature of the case a strict compliance with such rules and regulations would be impossible or impracticable.

#### ARTICLE XXX.

##### Special Requirements for Gas Generators and Gas Fitting.

Section 1439. All gas pipes and fittings hereafter installed in any building prior erected or hereafter erected shall be installed according to the best modern practice subject to such rules and regulations



as may be promulgated by the State Building Commissioner or Chief Building Inspector and by the Local or State Fire Marshal.

Section 1440. Where private gas plants or other apparatus, machines or retorts are used to manufacture an illuminant their location and construction shall in all cases be subject to the approval of the State Building Commissioner or Chief Building Inspector and the Local or State Fire Marshal, and these officials shall have power to remove them whenever, in their opinion, they become dangerous.

Section 1441. No acetylene generator or any form of gas producing apparatus shall be located within the walls of a building except in a separate building isolated from the one which they are installed to serve.

#### Special Requirements for Gas Generators and Gas Fitting Used or Installed Prior to the Passage of This Act.

Section 1442. In all cases where it becomes necessary the State Building Commissioner and the Chief Building Inspector by and with the consent and approval of the State Building Commissioner and also the State Fire Marshal and the Local Fire Marshal by and with the consent and approval of the State Fire Marshal shall from time to time, promulgate rules and regulations governing the use of gas producing machines installed prior to the passage of this act, and shall make such rules and regulations as may be necessary in individual cases where gas pipes are removed or repaired or introduced into a system installed prior to the passage of this act.

### ARTICLE XXXI.

#### Special Requirements for Plastering Hereafter Laid.

Section 1443. Plastering hereafter laid on lath in any building shall be laid with not less than three (3) coats, to wit: scratch coat, brown coat and finish coat.

Section 1444. Ceilings, stud partitions and furred walls where plastered with lime on wood lath shall have a key space of not less than three-eighths ( $\frac{3}{8}$ ) space between laths. All grounds and jambs shall be not less than seven-eighths ( $\frac{7}{8}$ ) inch from the stud. All lathing and plastering shall be continued back of the surbases down to the floor.

Section 1445. Where metal lath is hereafter used it shall be securely fastened to studding with staples not less than one (1) inch long.

**Section 1446.** The first coat of plastering shall be of first quality and scratched thoroughly to make a key for the second coat. Such first coat shall be thoroughly dry or set before applying the second coat.

**Section 1447.** The second coat shall be of brown mortar of first quality. All browning must be straight, true and with no unevenness or irregularity of surface.

**Section 1448.** (a) When the finish coat is of white or other mortar it shall be laid on evenly and shall be troweled to a smooth surface.

(b) Cornices and coves shall be run straight, true and smooth.

**Section 1449.** When patent plasters are hereafter laid on wood lath the space between such lath shall be not less than one-quarter ( $\frac{1}{4}$ ) inch.

**Section 1450.** (a) It shall be the duty of every owner, agent or lessee of any building to keep all plastering in good condition and to repair same when necessary.

(b) The State Building Commissioner or Chief Building Inspector is hereby given authority to order loose plastering removed when in his opinion it shall become dangerous, and to make such further regulations governing the repair and safe guarding the old plastering.

#### **Special Requirements for Plastering Prior Laid.**

**Section 1451.** (a) It shall be the duty of every owner, agent or lessee of any building to keep all plastering in good condition and to repair same when necessary.

(b) The State Building Commissioner or Chief Building Inspector is hereby given authority to order loose plastering removed when in his opinion it shall become dangerous, and to make such further regulations governing the repair and safe guarding the old plastering.

### **ARTICLE XXXII.**

#### **Special Requirements for Billboards, Signboards, Signs, Fences, Sidewalks, Cornices, Bay Windows, Porches, Windows and Other Projections Hereafter Erected or Constructed, or as a part of Buildings or Structures Hereafter Erected or Constructed.**

**Section 1452.** Where hereafter permitted by local laws or ordinances billboards, signboards and signs may be erected and constructed provided that the provisions of this act are fully complied with.



Section 1453. (a) Billboards and signboards shall not be hereafter erected or constructed upon or above the roof of any building or upon or above any structure.

(b) Billboards, signboards and signs that are attached to the front walls, side walls or rear walls of any building shall be placed flat against the face of such walls, and shall be safely and securely anchored and fastened thereto, subject to the approval of the State Building Commissioner or Chief Building Inspector.

Section 1454. Billboards, signboards and signs hereafter erected or constructed shall not project or hang over the building line.

Section 1455. (a) Billboards, signboards or signs of a greater area than twenty-five (25) square feet shall be constructed of metal; except that, the supports and frame work may be of wood; and except further that, if not within three hundred (300) feet of any other building or structure they may be built of wood.

(b) It shall be the duty of the owner, agent or lessee of any billboard or signboard hereafter erected or constructed to remove all loose paper and to maintain such boards in a safe condition, subject to the approval of the State Building Commissioner or Chief Building Inspector.

Section 1456. Billboards and signboards hereafter erected and constructed shall not have a total height of more than fifteen (15) feet, and shall be erected and constructed in a manner subject to the approval of the State Building Commissioner or Chief Building Inspector.

(b) The lower edge of every such billboard and signboard shall be not less than three (3) feet above grade, and shall in every case be at least three (3) feet above the level of the surface of the ground. The face of the board shall be not more than twelve (12) feet in height.

Section 1457. Billboards, signboards and signs hereafter erected and constructed shall be erected, constructed and maintained with a strength sufficient to withstand a wind pressure of thirty (30) pounds per square foot of face area.

Section 1458. It shall be unlawful hereafter to erect and construct any billboard, signboard or sign more than twenty-five (25) square feet in face area on or facing on any public street, public alley or within three hundred feet (300) of any public highway without first obtaining the consent in writing of two-thirds ( $\frac{2}{3}$ ) of the owners of the property on both sides of the street or alley between the nearest intersecting street or on both sides of the public highway within one thousand (1,000) feet in either direction. Such written consent

shall be filed with the State Building Commissioner or Chief Building Inspector before a permit may be issued.

Section 1459. Billboards, signboards and signs hereafter erected and constructed within twenty-five (25) feet of any other billboard, signboard or sign on the same lot property, building or structure shall for the purpose of this act be deemed a part of such other billboard, signboard or sign. In estimating the face area of any billboard, signboard or sign which is within twenty-five (25) feet of any other billboard, signboard or sign the combined area of all such billboards, signboards or signs shall be taken together.

Section 1460. (a) Signs constructed of metal and having a total height of not more than twenty-five (25) feet may be attached to the roof of a building subject to the approval of the State Building Commissioner or Chief Building Inspector.

(b) The lower edge of such sign shall be not less than five (5) feet from the top of the roof.

(c) No sign shall be placed on or upon any roof unless the same shall have sufficient strength to sustain it calculated with a factor of safety of ten (10).

(d) Signs having a face area of more than twenty-five (25) square feet, and all signs placed upon or above the roof of any building shall be constructed with an iron or steel skeleton construction so that the surface exposed to wind pressure shall not be more than fifty (50) per cent of the face area of the sign.

(e) Signs hereafter erected or constructed upon or above the roof of any building or structure shall be not less than six (6) feet from the edge of the roof, and shall not be erected or constructed upon any building more than eight (8) stories in height or upon any building or structure more than one hundred (100) feet high.

Section 1461. All billboards, signboards and signs hereafter erected shall have the name of the owner or lessee permanently stamped or engraved thereon.

Section 1462. The provisions of this act applicable to billboards, signboards and signs hereafter erected shall be applicable to other similar structures of like size and construction without regard to their use, whether erected from the ground or fastened to or upon any building or structure.

Section 1463. Nothing in this act shall be construed to prevent townships, boroughs or cities from absolutely prohibiting the erection or construction of billboards, signboards or signs or from requiring bonds from owners or lessees of billboards, signboards or signs, or from levying taxes upon billboards, signboards or signs.



**Section 1464.** (a) Wooden fences shall not hereafter be erected or constructed of a greater height than eight (8) feet.

(b) It shall be unlawful hereafter to erect or construct any fence having a height of more than eight (8) feet without first obtaining the consent of the adjoining property owner or owners or the approval of the State Building Commissioner or Chief Building Inspector where such fence is built on or near a street, alley or other public place, except that the provisions of this section shall not apply to fences when used in connection with buildings of Class IVb.

**Section 1465.** Cellar doors, cellar gratings, paving gratings and sidewalk lights shall not be placed in front of any means of ingress or egress to or from any building or structure.

**Section 1466.** (a) Sidewalk lights, gratings, coal hole covers and cellar doors, basement and ash lifts shall in addition to all dead loads safely carry a live load of two hundred and fifty (250) pounds per square foot.

(b) Coal holes shall not exceed eighteen (18) inches in diameter and openings for sidewalk lights, gratings, cellar doors, basement and ash lifts shall not exceed one-half ( $\frac{1}{2}$ ) the width of sidewalk. All coal holes shall at all times have substantial frames and roughened covers of iron or steel. Covers shall be constructed with at least four (4) bars attached so that when the cover is raised such bars shall form a barrier on all sides. Such covers with bars so attached shall never be removed from above the hole or raised less than three (3) feet.

(c) Gratings shall be constructed of iron or steel subject to the approval of the State Building Commissioner or Chief Building Inspector, and no openings therein shall have a greater dimension than one (1) inch.

(d) Frames for sidewalk lights shall be constructed of iron or steel subject to the approval of the State Building Commissioner or Chief Building Inspector, and supported where necessary on steel shapes.

(e) Cellar doors in sidewalks shall be constructed of steel plates with substantial frames of iron or steel. All such doors shall have stout hinges and fastenings, and shall be provided with devices to maintain them in a vertical position when open and no part of the same when closed shall project above the surface of the sidewalk or offer any impediment to pedestrians.

**Section 1467.** (a) Where sidewalks are hereafter constructed or laid extending across and inside of the building line in such a manner that the outermost point or cornices, baywindows, porches and other projections overhang the sidewalk a straight line not less than two (2) inches wide parallel with the outer line of the sidewalk shall be permanently drawn or inlaid on the sidewalk either by the

use of colored paint or by the use of material of a different color indicating the line of the outermost point of all such projections in front of such building.

(b) Posts and poles and other obstructions including telegraph poles, telephone poles and poles for electric power and signal lines shall not hereafter be erected on any sidewalk, street or alley or in the space reserved by any city or borough for the use of pedestrians; except that, iron or steel poles will be allowed for supporting and carrying trolley wires where permitted by local ordinances; provided that, the feed wire is under ground, and except further that, posts used for supporting lamps or lights will be permitted provided that the feed wires are underground.

Section 1468. Sidewalks shall not hereafter be constructed or laid until a written certificate shall have been obtained from the State Building Commissioner or Chief Building Inspector certifying that the provisions of this act relating to sidewalks have been complied with.

Section 1469. Where permitted by local ordinances canopies may be erected over the sidewalk in front of hotels and theaters, provided that they are supported on iron or steel frames or frames of other approved fire-resistive materials; and provided that they are subject to the approval of the State Building Commissioner or Chief Building Inspector. No such canopy shall obstruct or impede passage on the sidewalk.

Section 1470. All buildings hereafter erected more than one (1) story in height, except dwellings, shall have all window openings equipped with approved windows operating so that both sides can be cleaned from the inside of the building.

Section 1471. Cornices of buildings hereafter erected shall not have an overhanging of more than three (3) feet.

**Special Requirements for Billboards, Signboards, Signs, Fences, Sidewalks, Cornices, Bay Windows, Porches, Windows and Other Projections Prior Erected or Constructed, or as a Part of Buildings or Structures Prior Erected or Constructed.**

Section 1472. (a) Billboards and signboards and also signs when not constructed of metal, prior erected and constructed are prohibited on the roof of any building, and the same shall be removed within one (1) year after the date of the approval of this act.

(b) Signs prior erected and constructed that are not prohibited by this act on the roof of any building shall have the lower edge ap-



tion of such scaffolding or staging, and extending along the entire length of the outside and ends thereof, and properly attached thereto. Such scaffolding or staging shall be so fastened as to prevent the same from swaying from the building or structure.

(c) All scaffolds, platforms, and all appurtenances thereto shall be so constructed as to bear twice the maximum load to be placed thereon; and such scaffold, platform or appurtenances shall not be so overloaded or overcrowded as to render the same unsafe or dangerous.

(d) It is hereby made the duty of the owner, lessee, builder and contractor or sub-contractor of such house, building or structure and of the superintendent of said construction and of the agent of the owner or lessee of such building or structure to see that all the provisions of this section are complied with.

Section 1481. (a) It shall be the duty of the owner of every house, building or structure, except a dwelling not over two (2) stories and basement in height, and except also a private barn, granary and other farm buildings, to display conspicuously on each floor of such building during construction, a placard stating the load per square foot that each particular floor or part thereof was designed to carry, except that reinforced concrete construction need not be so placarded until the concrete has set.

(b) It shall be unlawful to load any such floor or any part thereof to a greater extent than the load indicated on such placards.

Section 1482. (a) All contractors or owners, when constructing buildings of steel-skeleton construction, shall lay and maintain a temporary plank floor on the posts next below the story for which the erection of steel work is in progress; and when the steel work of any story is complete, the work on the next story shall not be started until the next succeeding temporary floor is laid.

(b) Where the permanent floor is in place on the floor herein required to be planked, a temporary floor shall not be required.

(c) All openings for stairways or elevator shafts shall be covered by a temporary plank floor, or shall be protected by a substantial railing.

Section 1483. (a) If elevating machinery or hoisting apparatus is used within a building for the purpose of lifting materials to be used in such construction, the contractors or owners shall cause the shafts or openings in each floor to be enclosed on all sides by a substantial barrier or railing at least four (4) feet in height.

(b) Any hoisting machine or engine used in such building construction shall, where practicable, be set on the ground; and where it is necessary to place such hoisting machine or engine on any

floor above the ground floor, such machine must have a support capable of sustaining twice the weight of such machine.

(c) If the building is five stories or more high, no materials for its construction shall be hoisted over public streets or alleys unless such street or alley shall be barricaded from use by the public, unless there shall be built over the adjoining sidewalk a roof having a framework composed of supports and stringers of not less than 2-inch by 12-inch timbers not more than 4 feet from center to center, covered by not less than two layers of 2-inch plank. When additional stories are added to an existing building and where such building is located near the street line, said street shall be barricaded unless there shall be built over the sidewalk, at the point where the new stories commence, a scaffold not less than 6 feet wide, which shall form a covering over the sidewalk, composed of a strong framework of stringers and supports, covered with not less than two (2) layers of 2 inch planks. Such framework and covering shall be of such construction and design as to safely sustain any load that may be placed or fall thereon, and shall be satisfactory to the State Building Commissioner or Chief Building Inspector. Such roof shall be maintained as long as material is being used or handled on such street front above the level of the sidewalk. The railings, approaches and roofs over temporary sidewalks shall be made with regard to ease of approach, strength and safety, to the satisfaction of the State Building Commissioner or Chief Building Inspector.

Section 1484. Where elevating machines of hoisting apparatus, operated by other than hand power, are used in the construction, alteration or removal of any building or other structure, a system of communication by means of signals shall be provided and maintained by the owner or contractor, while said apparatus is in use, in order to establish prompt and effective communication between the operator of such engine or motive power, and the employes or persons engaged thereon or between persons engaged in using or operating the same.

Section 1485. (a) Whenever it shall come to the notice of the State Building Commissioner or Chief Building Inspector that the slings, hangers, blocks, pulleys, stays, braces, ladders, irons or ropes of any swinging or stationary scaffold, platform or other similar device used in the construction, alteration, repair, removal, cleaning or painting of buildings, bridges or viaducts are unsafe, or are liable to prove dangerous to the life or limb of any person, the State Building Commissioner or Chief Building Inspector shall immediately cause an inspection to be made of such scaffold or platform and the appurtenances thereto. If such scaffold, platform or any parts thereof are found to be unsafe, the State Building Commis-



sioner or Chief Building Inspector shall at once serve notice upon the person responsible for its erection or maintenance, and shall prohibit the use thereof until the same is made safe. Such notice shall be served upon the person responsible for its erection or maintenance if found on or near the premises, otherwise by conspicuously affixing the notice to the scaffold, platform or other such device, or to the part thereof declared to be unsafe.

(b) Whenever it shall come to the knowledge of the State Building Commissioner or Chief Building Inspector that any provision of this article is violated, he shall have an inspection of the same; and if any such violation is found, he shall notify in the manner provided in the preceding paragraph, the party or parties responsible for such violation to comply with the provisions of this act.

#### ARTICLE XXXIV.

##### Standard Appliances and Methods—To be Known as State Standards.

Section 1486. The State Building Commissioner, State Health Commissioner and State Fire Marshal shall from time to time adopt such standards as they may deem necessary for State wide adoption, and such standards shall be adopted by each and every city, borough or township within the State and become part of this code.

Section 1487. All fire hose couplings shall be of the screw thread type to conform with the State Standard.

Section 1488. All connections for use of fire hose shall conform to the State Standard.

Section 1489. All fire hydrants or fire plugs shall have at least one (1) State Standard engine outlet and one (1) Standard hose outlet with separate shut offs to each outlet.

Section 1490. All fire hydrants or fire plugs now in use having outlets other than State Standards shall, within three (3) years after the passage or enforcement of this act, be made to conform to the State Standard. Sleeves, nipples, or reducers screwed into such fire hydrants or fire plugs and securely fastened to same will be considered satisfactory. Such fire hydrants having only one (1) shut off need not be changed to have separate shut off, although such changes would be desirable.

Section 1491. The State Fire Marshal shall keep a set of master dies and tap guages to be known as State Standards, and copies of such standards shall be furnished to all cities, town, boroughs and townships, and be preserved by them in a careful manner.

## **ARTICLE XXXV.**

### **Special Requirements for Rat and Fly Proofing of Buildings and Structures Hereafter Erected.**

**Section 1492.** Buildings and structures hereafter constructed or erected shall be rat proofed in a manner herein described in addition to the specific requirements for rat proofing provided for in other sections of this code.

**Section 1493.** All buildings hereafter constructed or erected, in which are stored products for food consumption or in which food products are produced or manufactured, such as granaries, flour and feed mills, butcher shops, store rooms, feed stores, fruit stores, grocery stores, milk stations, dairy barns or any other structures near buildings or structures shall be rat proofed in a satisfactory manner subject to the approval of the Local Board of Health or State Department of Health and in accordance with the provisions of this code.

**Section 1494.** All chicken houses, tool houses, and other structures hereafter built or erected, forming a hiding or breeding place for rats, shall be rat proofed by either suitable and effective concrete foundations, or be placed on piers so as to allow at least eighteen (18) inches clear space between the bottom of such building and the ground level and such space to be kept clear of rubbish.

**Section 1495.** All board walks placed less than one (1) foot from the ground are hereby prohibited. This is not to be construed to prohibit the placing of boards or stone or concreted walks, provided there is no space between the board and stone or concrete.

**Section 1496.** All ventilators, holes or openings in all buildings accessible to rats, other than doors, shall be covered by screens with not less than one-half ( $\frac{1}{2}$ ) inch openings in such a manner as to prevent the ingress and egress of rats.

**Section 1497.** All premises, improved and unimproved, and all open lots and areas, shall be kept clean and free from all rubbish and similar material that might serve as a harborage for rats.

**Section 1498.** All lumber, boxes, barrels, loose iron and similar material that may be permitted to remain on any premises and be used as a harborage by rats, shall be placed on supports not less than eighteen (18) inches from the ground with a clear intervening space beneath.



Section 1499. (a) All foundations or walls used to support buildings or form the base of such buildings, for stabling horses, mules, cows or other animals, shall be constructed of concrete, brick or stone, laid in cement mortar and shall be not less than six (6) inches thick, and shall extend into and below the ground not less than two and one-half ( $2\frac{1}{2}$ ) feet, and shall extend above the ground a sufficient height as to be not less than one (1) foot above the floor level. Walls on rock impervious to rats need only extend down on or to such rock.

(b) All openings in such foundation walls shall be covered with metal gratings having openings not less than one-half ( $\frac{1}{2}$ ) inch between gratings.

Section 1500. The floors of stables and stalls shall be rat proofed by not less than three (3) inches of concrete, top dressed with at least one-half ( $\frac{1}{2}$ ) inch of cement, or stones or vitrified brick, laid in cement, in such a way as to prevent ingress or egress of rats, and all such stall floors to have a slope of one-eighth ( $\frac{1}{8}$ ) inch per foot to a gutter drain hereinafter provided for.

Section 1501. The floor of stalls may be of planking, fitting either tightly to the concrete floor or elevated not more than one-half ( $\frac{1}{2}$ ) inch from the stall floor, and so constructed as to be easily removable for cleaning at least once per week.

Section 1502. (a) Semi-circular or V-shaped gutter drains shall be constructed in such stables in such a manner that a gutter shall be placed so as to receive all liquid matter from each stall and each of these gutters shall connect with the public sewer, where there is a sewer, or with a main gutter of the same construction, which, in turn, shall be connected with the public sewer, where there is a sewer. Where public sewers are not installed, such gutters shall lead to enclosed cisterns or tanks.

(b) All openings from gutters into sewers or tanks shall be protected by a metal grating having openings not more than one-half ( $\frac{1}{2}$ ) inch between gratings.

Section 1503. (a) Each stable shall be provided with a manure pit sunk into the ground, within or near such stable; pit shall be lined with cement so as to make it liquid tight and shall have a capacity of at least two and one-half ( $2\frac{1}{2}$ ) cubic feet for each stall in such stable.

(b) All manure pits shall be provided with a tight fitting cover, divided into at least two (2) parts, and so constructed as to render the contents of pit inaccessible to flies.

Section 1504. (a) Any manure in and about all stables shall be placed in the manure pit at least once a day.

(b) The time for cleaning or removing the manure from such pits may be regulated by local ordinances when necessary, and the Local Board of Health or State Department of Health shall have power to order the manure removed at any time should it become a protective measure in their judgment.

(c) The Local Board of Health or State Department of Health may also order all wagons removing such manure from the pits to be protected from flies in the contracting or preventing of plagues or epidemics.

Section 1505. All mangers shall be so constructed as to have a slope of two (2) inches towards the bottom and shall, if made of wood, be covered with metal and shall be at least twelve (12) inches deep to avoid spilling of food and at such a height as to allow the animals easy access to the food.

Section 1506. (a) All feed bins shall be constructed of rat proof material and may be constructed of wood, if lined or covered with metal. All bins shall be provided with rat proof covers to prevent the ingress or egress of rats.

(b) All grain, malt or other food for animals, except hay, stored or kept in any stable, must be kept in such feed bins.

(c) Feed bins must be kept closed at all times, except where momentarily opened to remove food, or when bins are being filled.

(d) No feed shall be scattered about the stable and all food found on the floor or in the stalls shall be removed and placed in the manure pits daily.

(e) No food stuffs intended for on susceptible of human consumption shall be kept in any stable or other place where animals are kept.

Section 1507. All buildings or structures used to store milk or food for human consumption shall have their windows, doors and openings covered by fly screens, and all tools or utensils used in connection with the production and handling of such products shall be kept away from flies.

Section 1508. All privies or out-houses, where same are allowed, shall have their vaults so constructed as to be fly proof.

Section 1509. Where the nature of the business is such as to attract flies and create a breeding place for same and where it is not possible to eradicate the evil by any form of construction, then the Local Board of Health or State Department of Health shall direct the use of chemicals for the destruction of the flies or their larva.



**Special Requirements for Rat and Fly Proofing of Buildings and Structures Prior Erected.**

**Section 1510.** (a) All buildings and structures prior constructed or erected in which rats are found to harbor or breed, shall be so altered or remodeled or protected as to effectually prevent the harboring and breeding of rats.

(b) All buildings and structures prior erected or constructed and found impossible to be altered or remodeled as to effectually prevent the harboring or breeding of rats, are hereby declared a nuisance and shall be immediately demolished or removed.

(c) The Local Board of Health or State Department of Health must enforce the provisions of this act relative to rat and fly proofing and grant a reasonable time, in their judgment, for the abating of these nuisances, where not otherwise directed, and such alterations to any buildings or structures shall follow the provisions for rat and fly proofing hereafter erected, as closely as possible, or any methods equally effective.

**Section 1511.** All board walks less than one (1) foot from the ground are hereby created a nuisance and shall be removed within thirty (30) days from the passage of the act or they shall be removed immediately by the Local Board of Health or State Department of Health, if, in their judgment, such prompt action is necessary.

**Section 1512.** All ventilators, holes or openings in all buildings accessible to rats, other than doors, shall be covered by screens with not less than one-half ( $\frac{1}{2}$ ) inch opening in such a manner as to prevent the ingress and egress of rats.

**Section 1513.** The floors and stall of all stables prior erected shall be covered by concrete in a similar manner as provided in buildings hereafter erected, but no floors shall be laid in such buildings until after the foundation walls have been extended as provided for in buildings hereafter erected, and no joists or stringers shall be embedded in the concrete unless the ends of such timbers are protected by ending up against walls or partitions of rat resisting materials, and there shall be a layer of concrete beneath such sill of the required thickness of the floor proper.

**Section 1514.** Stalls shall be altered to conform with the provisions for same hereafter erected.

**Section 1515.** Gutters shall be constructed in a manner provided for in a similar manner as for gutters hereafter constructed.

**Section 1516.** Manure pits shall be constructed and maintained as is provided for manure pits hereafter constructed.

Section 1517. Manure shall be handled and treated in a similar manner as is provided for the handling of manure hereafter.

Section 1518. All mangers shall be altered in such a manner as to accomplish the same object as is accomplished by the provisions of mangers hereafter erected.

Section 1519. (a) All feed bins shall be altered or re-constructed to be rat proof and if of wood shall be covered with metal or lined with metal. All bins shall be provided with rat proof covers to prevent the ingress or egress of rats.

(b) All grain, malt or other food for animals, except hay, stored or kept in any stable must be kept in such feed bins.

(c) Feed bins must be kept closed at all times, except where momentarily opened to remove food, or when bins are being filled.

(d) No feed shall be scattered about the stable, and all food found on the floor or in the stalls shall be removed and placed in the manure pit daily.

(e) No food stuffs intended for or susceptible of human consumption shall be kept in any stable or other place where animals are kept.

Section 1520. All buildings or structures used to store milk or food or human consumption shall have their windows, doors and other openings covered by fly screens, and all tools or utensils used in connection with the production and handling of such products shall be kept away from flies.

Section 1521. All privies or out-houses where same are allowed must have their vaults so protected as to be fly proof.

Section 1522. Where the nature of the business is such as to attract flies and create a breeding place for same and where it is not possible to eradicate the evil by any form of construction, then the Local Board of Health or State Department of Health shall direct the use of chemicals for the destruction of the flies or their larva.

## ARTICLE XXXVI.

### Repeal.

Section 1523. All acts or parts of acts inconsistent with this act or supplied by this act are hereby repealed, but this repeal shall not be construed as reviving any act or part thereof not in force at the date of the approval of this act.





# INDEX

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	Page
Academies, .....	125
Administration, .....	13
Aisle, .....	14
Amusement Park, .....	14
Apartment, .....	14
Apartment Hotel, .....	14
Apartment House, .....	14
Approved, Definition of, .....	14
Art Galleries, .....	125
Assembly Hall, .....	14
Asylum, .....	14
Attic, Definition of, .....	14
Auditorium, Definition of, .....	14
Automatic Button Control Elevator, Definition of, .....	14
Automatic Sprinklers, .....	346
Basement, Definition of, .....	15
Bay Window, .....	413
Benevolent Institution, .....	15
Bill Board, .....	15
Breweries, .....	252
Building, Definition of, .....	15
Building of Classes Hereafter Erected, Definition, .....	15
Building of Classes Prior Erected, Definition of, .....	15
Bulkhead, Definition of, .....	15
Cafes, .....	286
Ceiling, Definition of, .....	15
Cellar, Definition of, .....	15
Cesspool, Definition of, .....	15
Chimneys, .....	15
Chimney Stacks, .....	16
Classification of Buildings, .....	30
Class I Buildings, .....	31
Class II Buildings, .....	107
Class III Buildings, .....	138
Class IV Buildings, .....	209
Class V Buildings, .....	233
Class VI Buildings, .....	265
Class VII Buildings, .....	286
Club House, .....	16
Cold Storage House, .....	252
Colleges, .....	125
Common Hall, Definition of, .....	16
Common Wall, Definition of, .....	16

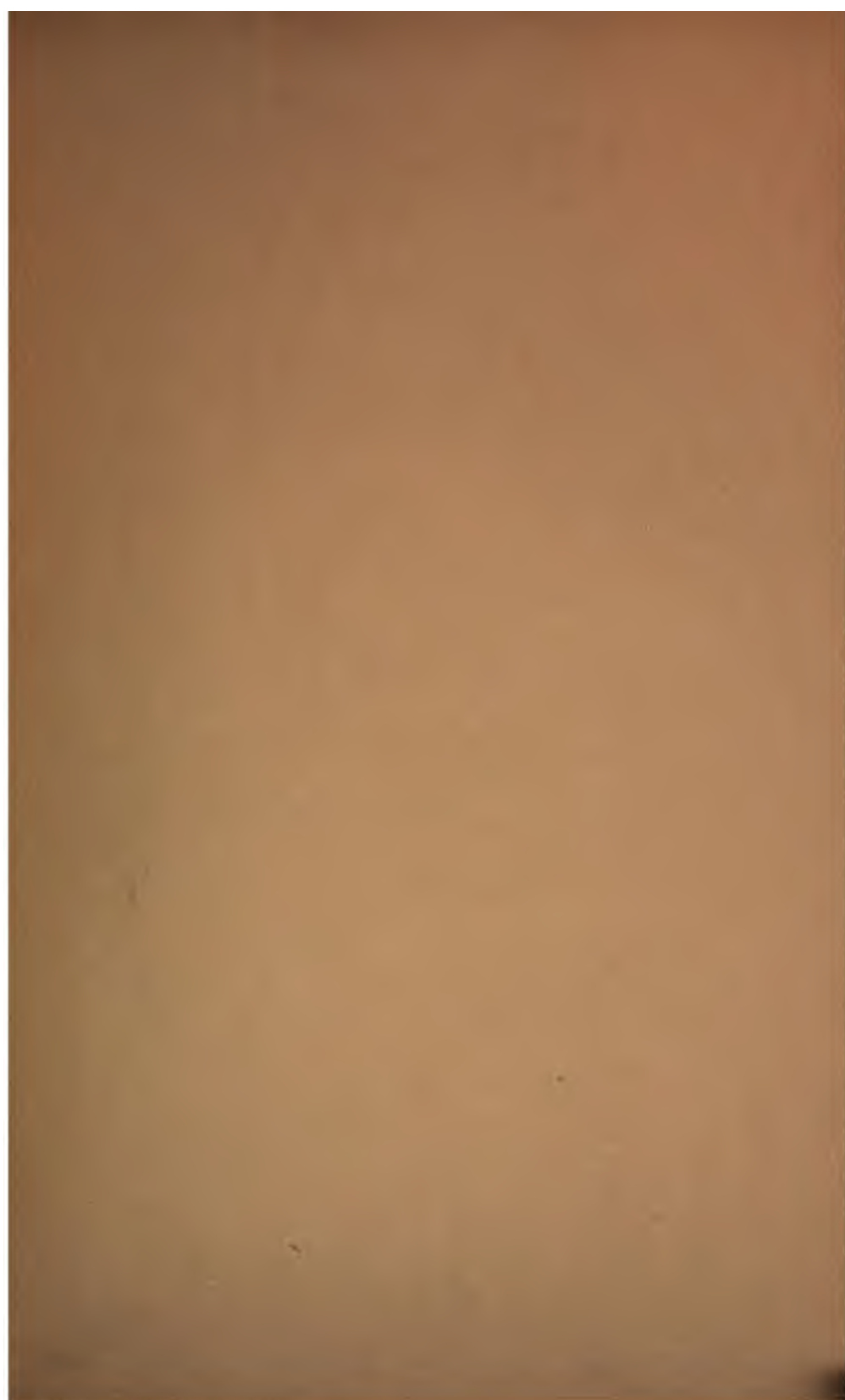


	<b>Page</b>
Rooming House (Lodging and), .....	23
Sanitarium, .....	23
Sanitation and Plumbing, .....	308
Safety During Construction, .....	419
Scenery, Definition of, .....	24
Schools, (Primary, Grammar and High), .....	107
Seminaries, .....	125
Shaft, Definition of, .....	24
Sidewalks, .....	413
Signs, .....	24
Sign Boards, .....	24
Slaughter Houses, .....	252
Slow Burning Construction, Definition of, .....	24
Smoke Flue, .....	24
Smoke Pipe, .....	24
Soil Pipe, Definition of, .....	24
Sprinklers (Automatic), .....	346
Stable, (Garage and), .....	282
Stack, (Chimney), .....	282
Stage Properties, .....	24
Stairways, .....	345
Standpipes, .....	346
Standard Appliances and Methods, .....	422
State Building Commissioner or Chief Building Inspector, Definition of, ..	24
Store, .....	25
Story, .....	25
Structure, .....	25
Summer Theatres, .....	25
Tenement House, .....	25
Theatre, .....	25
Timber, .....	339
Tower Fire Escape, Definition of, .....	25
Veneered Construction, Definition of, .....	25
Vent Pipe, Definition of, .....	25
Vent Shaft, .....	25
Wall Aisle, Definition of, .....	25
Walls and Foundations, .....	329
Warehouses, .....	252
Waste Pipe, Definition of, .....	25
Windows and Other Projections, .....	413
Workshop (See Factories), .....	25
Yard, Definition of, .....	26























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